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**ON THE PICTORIAL ART IN ILLUSTRATING MICRO-
SCOPIC OBSERVATIONS, WITH ORIGINAL DRAW-
INGS AND DESCRIPTIONS.**

By R. U. PIPER, M.D., CHICAGO.

A knowledge of the arrangement of material forms in their varied relations can only be conveyed from the observer to others through the actual exhibition of objects, or by means of accurate drawings. Language, if it possessed power to this end, is subject to such wide differences of interpretation that even to experienced observers it often fails to impart correct knowledge. As the material exhibition to any extent of the results of our studies is impossible, we must resort to the pictorial art if we desire that our discoveries should reach the world of science. Art, used to convey ideas, becomes the most potent means of instruction, not only telling what the pen cannot tell, but so condensing knowledge as to convey in a single figure what it would take whole pages to describe, even where such description is possible to language.

Dr. Beale remarks that "an honest inquirer cannot be of greater use in his time than by making good drawings of what

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he has seen, and that we may feel sure that those who follow us will respect our drawings, if honest copies of nature."

Any advance in our knowledge of a large number of diseases must rest mainly upon histological research; and here, of course, is required the use of the microscope.

Dr. Richardson says, "that at least one-half the cases of disease which the physician is called upon to treat would have some light thrown upon their nature by a careful examination of the renal secretion, sputum, blood, etc., with the microscope." It seems obvious, then, that an earnest and conscientious practitioner of medicine can scarcely discharge his whole duty to himself and his patients without frequent resort to such investigations.

Take for illustration kidney diseases, which are so common and so frequently grave. They may in many cases be treated with entire success if taken in their early stages. Owing to the labors of Bright, Johnson, Beale and others, the proper treatment of many of these diseases is now well understood. Most, if not all, of the advance in the knowledge of the treatment of these much dreaded disorders, has been made through the agency of the microscope. Through the liberality of the publishers of the JOURNAL AND EXAMINER I am able to show, by means of plates, what can now be done in this way to put on record discoveries made with the microscope, and by other methods also. I speak advisedly when I say *can now be done*, for heretofore, in too many cases where attempts have been made in this way to show minute structure, such attempts have resulted in failure.

In the present case the wood engraver has proved himself able to give "*wash drawings*" with almost absolute fidelity; as nearly so, I think, as may be done by the difficult and expensive process of aqua-tint etching.

So important is the need of giving texture in histological drawings that Dr. Beale devotes pages in urging its necessity, and in endeavoring to give directions for its accomplishment.

Such *fac simile* engravings, when the original drawing is correct, cannot fail to aid the student in his researches with the microscope,

I have chosen for the illustration of my subject two plates drawn by myself directly from the microscope; one of them illustrating a case of chronic Bright's disease, under the care of Dr. I. N. Danforth; the other showing foreign matter found in urine. It may be well, perhaps, in order to show the reliability of the drawings, to give in brief the method of their production. The usual way has been to outline the object by means of the camera-lucida, and afterwards to draw the shading and texture from the memory, a fancy of the artist. Dr. Beale says we cannot expect the artist to spend time drawing things which he neither knows nor desires, perhaps, to know anything about, and yet he tells us it is quite impossible to obtain a good representation of a microscopic object without long and careful study, and that it is necessary to give texture as well as outline in many cases, in order to the recognition of the object even. In such statements I think we may find the reason why so many errors in the texture and otherwise may be observed in the drawings in his magnificent volumes. There is another reason for a want of truth in texture and detail which may be observed in a large proportion of the published plates of microscopic observations. They have been drawn from low powers; hence, of course, minute structures could not be given. My course has been, in all cases where practicable, to use high powers when making the drawings, and to have them reduced on the engraver's block by means of the photographic process; that is, they are photographed on the wood from the negative taken from the drawing, as in copying on paper or any other substance. This enables me to preserve in its integrity every feature of the original picture.

I do not make *pencilled* outlines of my drawings, except in a few cases where it is necessary in order to obtain absolutely accurate measurements in drawing blood corpuscles, with reference to legal cases; but the drawings are made and finished under the camera with the brush. This allows the giving of texture, which is here so beautifully and for the first time, to my knowledge, faithfully copied by any wood engraver. The most exact method of making copies of drawings is by the

photographic process, and it is best to resort to this method when but few copies are needed, as in reporting the results of a microscopic examination for individual study. But the use of the photographic process to produce images direct from the microscope for the purpose of histological investigation I think must in most cases prove an entire failure.

In studying morbid changes in so small an object as a blood corpuscle even, I am obliged to keep my finger nearly all the time on the fine adjustment screw of the microscope, and I do not remember a single drawing made with any degree of finish in which I have not had to change the focus a number of times during the progress of the work; nor, indeed, have I seen a single photograph taken in this manner in which the *whole* truth was depicted; *i. e.*, what could be easily observed by changing the focus of the instrument during the progress of the study.

Take the plate illustrating renal disease, as showing certain other difficulties in the way of rendering micro-photography of value.

As many as twenty dippings from the same specimen of urine were used in making up the plate; and if it were possible to bring all the objects seen in it together in one field, the difficulty would remain of photographing the different objects, many of them occupying different focal planes. There are other obstacles in the way of this process, such as the color of objects, etc., and which need not be detailed.

Regarding the use of high powers, Dr. Beale says, in the last edition of his book, "that they are absolutely necessary to the study of the minute structure of organized matter." I have myself long been convinced of this fact.

In studying blood, all my observations have been made with a power giving 1,275 diameters; and in observations on renal diseases, cancers, etc., it is necessary, in most cases, at some stages of the investigation, to resort to the use of such high powers.

Often, with the exclusive use of low powers, objects would be wrongly named or entirely overlooked, which would at once attract attention when highly magnified.

In both of the accompanying plates may be seen objects which could not have been recognized, or scarcely seen even, by a power of 200 diameters. Let any one try to examine blood discs under this power, and they will at once perceive how inadequate it is for the purpose. Recently a slide of dried



PLATE 1.

In Plate 1, *a* indicates air bubbles, two of them resting upon an epithelial cell; *b*, oil globules; *c c*, epithelial cells; *d*, vibriones; *e*, torula cerevisiae; *g*, granular casts from the tubuli uriniferi; *h*, a mass of deep orange colored crystals, perhaps chloride of ammonium. Fragments of casts, etc., are seen scattered over various parts of the plate.

human blood was submitted, with the remark that it had been examined under such a power, and found to contain a large proportion of white blood discs. Upon examination with a high power, barely the normal number could be discovered. To-day, we have under examination a specimen of urine which

contains bodies the most practiced observer would try in vain to distinguish under a power of 350 diameters; with a power of 1,200 they are seen to belong to certain species of diatomes. These bodies are frequently found in urine. They are doubtless introduced through the medium of the water used in rinsing the vials which contain the specimens. The bodies referred to might easily be mistaken for a cast undergoing disintegration.

The second plate contains objects often met with in the urine, which are introduced by accident or design. All observers agree as to the great importance of being able to recognize such extraneous substances.

They should be studied by themselves under different powers, being put into urine for the purpose, and then submitted to examination in the usual manner upon the glass slide.

Those shown in the plate have most of them been found in samples of urine under examination. All of them have been drawn while in urine, and thus they are made to appear as they would under the ordinary conditions in which they come under the notice of the medical practitioner. They were magnified much larger than they appear in the plate, and are reduced, as before described, from the original drawings.

Anyone who will take the trouble to compare these figures with those found in the books will perceive quite a difference in the form and texture of most of them. Portions of a feather are represented by *a a*; *b* indicates a group of five epithelial cells; *c*, three pieces of cotton fibre, a piece of hemp being seen at the right of the group; *d*, two pieces of pine wood; *e e*, human hair, the upper piece showing disease; *f*, portion of the root and shaft of dog's hair; *g g g*, groups of potato starch. This starch is seen under these three forms: with the waved surface, with the nucleus, and as in the central group; *h* marks four pieces of cat's hair, all cut from a single specimen. The smallest piece of this hair is given as the typical form in Beale's plate; corn starch is shown at *i*; air bubbles at *k*, with other forms beneath and attached at the side; *m* is a group of wheat starch, one of the forms presenting a very curious appearance; *n*, portion of a rice grain, with a mass of cooked wheat

flour lying to the left of it. This piece of rice grain might well be mistaken for a cast. It is best in working to have a watery solution of iodine to test such forms when there is any doubt in the case. A group of oil globules is seen at *p*, some of them resembling spermatozoa. These globules are described in the books as being yellow. This depends upon the kind of oil composing them. In this case, and in most



PLATE 2.

cases I meet with, they present a sort of pearly hue. Four pieces of linen fibre are shown at *r*; *s* is a piece of wool fibre; *t*, silk fibres. Several plates might be made, showing foreign bodies which are frequently found in urine.

We have found clay, brick dust, ochreous earth, etc., etc., in samples of urine, often introduced by accident, sometimes, doubtless, for purposes of deception. Recently I met with

diatoms from the Pacific coast. These came from sea-weed which had been sent in a letter. Pieces of tea leaves, tobacco, and such substances are quite common. Epithelial cells and other substances from the mouth, introduced through the medium of the sputum may cause the observer some trouble. The want of a careful study of such foreign matters under the conditions in which they are found, has "caused the observer sometimes to make the most ludicrous mistakes."

[I wish to acknowledge my indebtedness to Baker & Co. for the unrivalled truthfulness of the engravings in this paper; and also to Mr. Gentile for his very successful experiment in photographing my drawings by means of his new process.—R. U. P.]

CLASSIFICATION AND CAUSATION OF DISEASES.

By C. B. JOHNSON, M.D., TOLONA, ILLINOIS.

[Abstract of a paper read before the Champaign Co. Med. Society, Jan. 9, 1877.]

Various divisions and systems of classification of diseases have from time to time been presented by eminent medical men. To mention only some: One division is made according to duration, and by this method diseases are separated into acute and chronic. A second is by location; and here ailments are referred to as affecting this or that particular anatomical division of the body. A third system is based upon symptomatology. A fourth upon morbid anatomy; while a fifth is founded upon causation.

But notwithstanding this diversity in the modes of classification, in modern medicine, at least, the several varieties may be referred to one of three systems, viz., either the one grounded upon symptomatology, or the one upon pathological anatomy, or yet the one upon etiology.

Substantially it may be said that the symptomatological school was introduced, and in a measure perfected, by the English; the pathological by the French, and the etiological by the Germans.

About a hundred years ago Dr. Cullen, of the University of

Edinburg, gave to the world his "*Nosologia Methodica*," in which a systematic division of diseases was made into classes, genera, species, etc., in the same manner that plants in botany and animals in zoology are arranged.

This system was based upon symptomatology, and at the time of its introduction was by far the most acceptable method that had been proposed; and, with various modifications, was the one very generally adopted till about the close of the first quarter of the present century. According to it, diseases were known by their appearances only, and a given malady was assigned or refused a place in a certain group of diseases in accordance with the fact of its symptoms agreeing with or differing from other members of that particular group.

By those who introduced it, an effort was seemingly made to discover for each disease a peculiar symptom which should be pathognomonic of that particular ailment, and around which all the other symptoms should cluster to form a perfect whole. But notwithstanding the popularity of Cullen's classification, it was in reality exceedingly cumbersome, for it embraced over 1,300 diseases, with a different treatment for each.

In the year 1808, Brouissais, of France, published his "*Chronic Phlegmasia*"; this, so to speak, opened up the new science of pathological anatomy, and was followed in due time by works on the latter subject from Louis, Andral, Cruveilhier, and a host of others in France.

In the year 1820 Brouissais published another work entitled "*Examinations into Medical Doctrines and Systems of Nosology*," in which the assertion was made that 60 out of every 100 diseases had their origin in gastro-enteritis; that continued fever, in its beginning, was only an inflammation of the stomach and bowels; small-pox and the exanthemata generally were but cutaneous inflammations, kept up by the gastro-enteritis, and rheumatism and gout were often caused by irritation of the stomach, and could frequently be cured by local applications to the gastric region. Indeed, according to his ruling, local diseases absorbed nearly the whole category of ailments, while constitutional maladies were well nigh, if not completely, stricken from the lists. In fact, one of the advo-

cates* of these views says "Diseases being deviations from the natural actions and structures of particular tissues are always local, never general."

Those who advanced these doctrines, though professing to have reached their conclusions from a careful study of pathological anatomy, called theirs the *physiological* school. In the medical literature of 50 years ago the word *ontologist* is of frequent occurrence. This was an epithet applied to one who was supposed to believe that disease was a distinct entity, which for a time took up its abode in the body. Indeed, all those who did not subscribe to the tenets of the so-called physiological school were rather opprobriously styled *ontologists*, much in the same way that the Mormons of our time call all the rest of the world *Gentiles*.

This brings us to the consideration of the etiological system. Two hundred years ago infusoria and spermatozoa were discovered, and as the microscope thus revealed the fact that there were living organisms in the human body—for spermatozoa were for a long time believed to be living animals—it did not take long for the imaginative minds of the medical men of that era to conceive the fact that swarms of animalculæ entered the body and produced epidemic disease. And it is said that one writer of the seventeenth century gravely proposed that a great noise should be made by firing cannon, blowing trumpets, etc., hoping thus to drive away the vast flocks of these disease-producers that were believed to infest the air.

Of course, such a proposal was calculated to bring discredit upon the whole theory; and the idea of low organisms having any agency in the production of disease was substantially ignored till about the middle of this century. Since about 1850 it would appear that some German investigators have been patiently examining into the causation of disease. Their labor has, however, been more especially directed to the etiology of infectious diseases. And while it must be confessed that as yet the result of their investigations has been comparatively meagre, still the fact remains that their discoveries have

* Prof. Sam. Jackson, of the Univ. of Pen.

been of such a nature as to warrant the enlargement of that group of diseases known as infectious and contagious, and likewise to justify the framing of a new theory of their origin.

Agassiz, from a single fossil fish scale as a basis to work on, thought himself justified in constructing a model of the whole fish. Afterward a perfectly fossilized specimen of the species to which this fish belonged was discovered, and it was found to correspond in the most minute particulars with the model made by Agassiz. There is certainly a much less disproportion between the germ theory of the origin of infectious diseases and the well and authenticated facts upon which it is based, than there was between the complete model of Agassiz and the single fish scale which served him as a foundation to build on. Or, in other words, the relation between the true and the *probably* true would seem to be more intimate in the former case than in the latter. And as the revelations of time proved Agassiz correct, so may we hope, nay, almost predict, that the disclosures of the future will so substantiate this theory as to place it beyond controversy. Of the facts, however, relating to this whole subject, it may be said that as yet we have only the bud, and that the full-blown flower, and after it the completely developed fruit are yet to come.

But let us see as to the character of some of these facts: In the year 1848 Lebert, having had occasion to remove a cervical cyst from a child, noticed, after a little while, that the wound, which at first began to heal kindly, had suddenly become converted into a deeply corroding ulcer. And a closer examination revealed the fact that this bad result came from the presence of numerous bacteriæ.

This is a vegetable organism so minute that it is said to be barely visible under the most powerful microscope. Several varieties of bacteria are known to exist. Passing over the almost unpronounceable technical names, there are mentioned, among others, the rod-like, spherical, corkscrew-shaped bacteria, besides several unclassified varieties. Some of the species are known to be prolific disease producers.

The micrococcus or rod-like bacteria has been pretty clearly proven to be the cause of diphtheria. Ebert says, "without

micrococci, *no diphtheria*." Oertel states that any increase in their number is certain to be followed by increase of diphtheritic deposit.

In relapsing fever a peculiar organism is found infesting the body, and as it is seen in no other disease, it is fully believed by some to be the sole cause of that fever. In the case of malignant pustule, a certain organism is known to exist which is regarded as the propagator of that disease. The same, with a considerable degree of certainty, is inferred to be the case with pyæmiæ and puerperal fever. Perhaps at this day no one can be found who will for a moment question the direct agency of the *acarus scabiei*, or itch mite, in the production of itch. Yet the very fact of its existence was for a long time a vexed question, and was only verified to a certainty 40 or 50 years ago. Though in reality the *acarus* was discovered as early as 1703.

Neither will any one deny that the *trichina spiralis* is the sole cause of the disease trichiniasis. Still the fact of the *trichina* having any agency in the causation of disease was not known for 25 years after the discovery of that organism.

The attempt has been made to produce itch by inoculation with the fluid from the vesicles in that disease, but the experiment failed in all cases. The transplantation of the *acarus* to a new soil, however, always generates itch. The attempt to produce trichiniasis by any other means than through the intervention of the *trichina* would meet with the same results as would attend the efforts of a hen that, with an ambitious itching for maternity, sought to attain it by setting continuously on chalk eggs.

Any disease which only comes from one particular cause is a specific disease. And, in this sense, typhoid fever, epidemic dysentery and cholera are believed to be as truly specific as syphilis, and the malarial fevers, diphtheria and the exanthematous fevers as much so as gonorrhœa. No amount of decaying matter, no degree of filth can generate a specific disease. No more will the most fertile spot in fruitful Illinois yield a crop of Indian corn without first receiving the seed, than will the foulest and most contaminated locality breed specific dis-

eases without having been sown with the germs of infection. Filth and decaying matter are only a favorable soil for holding and, perhaps, further developing these germs.

It is true, matter undergoing the process of decomposition often produces certain forms of disease; but the symptoms are usually confined to the alimentary canal, and the disease is never communicable. The following incident from the U. S. Government Report of the Cholera Epidemic of 1873, will illustrate the two classes of ailments: Mrs. Brewster, sister to the celebrated Dr. Henry Bennett, having gone to Vienna to attend the Exposition of 1873, put up at a large and commodious hotel, which had just been opened to the public. She complained of the drinking water the first day, and would not even so much as wash in it without first putting in cologne. She, her niece, and maid, and several servants were all attacked with diarrhoea. This was thought to be a bilious complaint, caused by heat, and was looked upon as a trivial matter. Meantime, the water grew worse and worse, and Mrs. B. made complaint to the landlord. She then resorted to milk and mineral water, till the first was found to be diluted with, and the second made from, water on the premises. On the fifteenth day the hot water for the tea at breakfast smelt so badly that the proprietor was sent for, who reported that one of the drainage pipes had broken into his well, but that a dozen men were repairing it. Her niece refused to take the tea, but Mrs. B. had already swallowed some of it. She continued well all day, but about 11 P. M. was attacked with diarrhoea and vomiting, and in six hours was cyanozed and collapsed, and in *fifteen* hours was a corpse.

It was then found that a gentleman had died two days before from cholera in the hotel. Four more died the same day with Mrs. Brewster, while many of the servants and guests were sent to the hospital, where they afterwards died. The water was now examined, and found to be contaminated with sewage. The hotel was at last closed by the police. While the water was simply polluted with ordinary fecal matter, a comparatively trivial diarrhoea prevailed. But so soon as the two cases of true cholera occurred, and the evacuations got into the

well, genuine Asiatic cholera at once broke out. This disease had really been in Vienna since the previous April, but the fact was concealed, so as not to compromise the success of the Exposition.

At the siege of Metz it is said that from the bad sanitary conditions then prevailing, many predicted an epidemic of typhus fever. But nothing of the kind occurred, simply because those all-important factors, the seeds of infection, were wanting. Really it seems that whosoever believes in the origin of specific diseases by any other means than through the direct agency of their definite and peculiar causes, is virtually a believer in spontaneous generation, and his faith is not far removed in character from that of those common people who believe that swine, dirt and old shavings will breed fleas.

To my mind, one of the strongest arguments in favor of the germ theory is the striking analogy existing between the growth of plants and the course of certain diseases. Take, for instance, small-pox: Let an unprotected individual be exposed to this disease, and for about twelve days therefrom, which period is called the period of incubation, he will suffer no inconvenience. At the end of this time, however, the disease will make its appearance by the patient having high fever. This continues for a certain time, and is followed by the stage of eruption, which in turn is succeeded by secondary fever, and lastly comes the period of desquamation. Let a grain of corn be put in the ground under suitable conditions, and it first passes through the process of germination, which corresponds very closely to the stage of incubation in small-pox. The next step is vigorous growth for the development of the stalk and leaves; this finds its analogy in the primary fever. Another step is the development of the flower, which, in popular language, is the silk and tassel, and fertilization of the young shoot; this is not unlike the stage of eruption. A fourth step is the growth and development of the ear, which may be compared to the secondary fever. Lastly, we have the drying out and ripening of the ear, which corresponds to the desquamation process in variola.

Here are five stages in either case, and in both instances

each stage is within certain limits of definite duration, and corresponds to the carrying out of a certain process. And as we know vegetable life to be at the bottom of all phenomena in the one case, is it unreasonable to suppose that organized action, independent of the body, is the primary cause of what we see taking place in the other. While we are striving to gain light on this subject from analogy, it may not be out of place to give, in a very few words, Lebert's experience with a disease prevailing among silk worms, which was of so fatal a character as almost to destroy the silk industry. He found it to be caused by a minute fungus that infiltrated all the tissues of the body, from the egg to the complete butterfly. This disease had all the characteristics of an epidemic, and was entailed upon the succeeding generation through the agency of the infected eggs.

In the vegetable kingdom each species flourishes best in a certain soil. Some plants require a high, dry location, some do best in a low, wet marsh, others prefer a light, sandy soil, and yet others demand a rich loam. The same is true with infectious diseases. For instance, in small-pox, the disease fastens, by preference, upon the cutaneous system; in typhoid fever, upon Peyer's glands; in dysentery, upon the colon; and in diphtheria, upon the throat; and so on through the whole list.

Ziemssen, in his *Cyclopædia of Practical Medicine*, makes three classes of infectious diseases. First, those that are directly contagious, as variola, measles, typhus fever, etc. Secondly, those diseases which are purely miasmatic, in which the poison comes from without, never having had previous connection with the body. The malarial diseases belong to this group. The third class is not so simple in its manner of production. To make this plain, a little illustration is necessary.

It is said that an injection of blood from a cholera patient into a healthy subject will not cause the disease. It is also asserted that fresh cholera discharges are incapable of generating cholera; but that these discharges, or rather the germs which they are believed to contain, have to go through a pro-

cess of further development before they can produce the disease. Contact with decomposing matter is highly conducive to this result.

Here, then, we have a poison which is generated in the body, but which has to be subjected to influences *without* the body before it is capable of reproducing its kind. So that a third group is called the miasmatic-contagious. Cholera, typhoid fever and dysentery are good examples. By the etiological system, typhoid fever, so far from being *like* typhus, does not even belong to the same group; typhoid belongs to the miasmatic-contagious class, while typhus is grouped with the directly contagious maladies. The miasmatic-contagious diseases, in their manner of development, bear a striking resemblance to those plants which have to be first sprouted in hot-beds before they are in a fit condition to be put in their proper soil for further growth.

Liebermeister suggests that the difference between the diseases that are directly contagious and the miasmatic-contagious group is not so great as a superficial examination would lead us to suppose. He surmises that the change through which the germs of cholera, for instance, have to pass outside the body, before they can reproduce that disease, takes place in the body in the case of the contagious diseases during the stage of incubation. Or, in other words, we may regard the body as a kind of soil, in which flourish certain diseases, and in the case of the miasmatic contagious class, the germs are, so to speak, sprouted without the body, and are then received, and at once produce their peculiar results. In the contagious diseases, however, the seeds are, as it were, received directly and sprouted in the same soil in which they are to grow.

Zymotic is a term that has long been applied to infectious diseases; but as zymosis, or the process of fermentation, has been shown to depend upon the presence of vegetable organisms, the zymotic theory of the origin of this class of diseases becomes identical with the germ theory.

LOCAL TREATMENT IN DIPHTHERIA, WITH
CASES.

By A. W. HAGENBUCH, M.D.,

ASSISTANT PHYSICIAN AT COOK COUNTY INSANE ASYLUM AND POOR HOUSE.

In giving a sketch of an epidemic of diphtheria which came under my care at the Cook county pauper institution, I will strive to notice the main features of the epidemic as they presented themselves.

The total number of patients treated was thirty-three; this number including only cases with well marked pseudo-membrane, all cases of simple pharyngitis being excluded. Of this number six were males, twenty-seven females. The greater number of females attacked is explained by the fact that all boys over five years of age are removed to a separate apartment, while the girls are allowed to remain with their mothers.

The first case was brought to my notice December 9th, 1876. The last, January 13th, 1877. The rate of increase was more marked at the beginning than towards the close of the epidemic.

The average duration, counting from first appearance to the complete disappearance of the pseudo-membrane, was about ten days. In one case I made daily local applications for seventeen successive days.

The tonsils were the primary seat of the pseudo-membrane in ten cases; the soft palate was involved in thirteen cases; the larynx in two cases, one of which proved fatal. The entire nasal cavity was involved in one case, a thin, ichorous discharge resulting, and upon several occasions a severe hæmorrhage followed the act of coughing or sneezing. The post-pharyngeal wall alone was involved in a single case. In the remaining six cases the hard palate, cheeks, etc., were the seat of the pseudo-membrane.

The only fatal case was that of Willie T., aged twelve months. He was attacked suddenly January 3rd, and, although strong and healthy up to this date, was rapidly prostrated. Local appli-

cations could not be employed thoroughly. The larynx was involved by extension of the inflammation on the third day; the characteristic croupous cough was marked, and the patient died on the fifth day, of asphyxia.

Most of the causes generally supposed to operate in the production of diphtheria have been present to an unusual extent; improper hygienic surroundings, crowded apartments, and the diet, although better than the pauper element of large cities can afford, does not contain in sufficient quantities all the proximate principles necessary for the perfect reproduction of the rapidly changing tissues of the growing child; milk, especially, is very scarce during the winter months.

That the disease is but slightly contagious may be proven by the fact that of the one hundred and sixty children inmates, freely intermingling in the school-room and different houses, only those in house C were attacked. The boys' room, about two hundred feet distant, with eighty inmates, did not furnish a single case. I believe the diphtheria poison (whatever that may be) to be slightly communicable by contagion. The fact that I was the only sufferer from diphtheria in the Insane Asylum where I reside, proves to my mind that the close contact with patients, while making the local applications, accounts for the attack in my case. The possibility of having accidentally received some of the secretions into my mouth, and consequent inoculation, must not be lost sight of.

The experiments of Peters*, in which, by the application of a diphtheritic secretion, he was able to change the nature of any simple inflammation, so as to form false membranes upon ulcers, erosions, or any denuded surface, prove, beyond dispute, the inoculability of the diphtheritic secretions.

Paralysis of the soft palate was present in thirty per cent. of all the cases, and albumen in the urine was found in two out of five specimens examined. The paralysis of the soft palate prevented often the ingestion of liquid food, and lessened the facility with which local applications were made to the post-pharyngeal wall. Several cases, towards the close of the

* See Edinburgh Med. Jour., 1860.

epidemic, suffered with severe diarrhoea, but improved with mild astringent preparations and good diet.

I ascribe the low rate of mortality, to some extent, at least, to the early and thorough local treatment employed.

Twenty cases, in which a vigorous local treatment was employed, made a more rapid and perfect recovery than cases in which the local treatment consisted only of weak astringent gargles, too early discontinued. In several cases I was obliged to return to the local applications to relieve suffering and imminent danger to life from accumulated secretions and extensive false membranes obstructing the pharyngeal space.

The local applications mostly employed consisted of equal parts of tincture of the chloride of iron and dilute nitric acid. First rinsing the mouth, and carefully removing the secretions and detached membranes with a dry swab, I applied the above preparation with a soft brush. The parts, upon inspection, now presented a dryer and more healthy appearance, the astringent application causing the contraction of the tissues, and giving to the enlarged tonsils a corrugated appearance. In three cases only was a stronger preparation than the above employed, including my own case, in which the nitric acid C. P. was carefully applied to the false membrane with an ivory probe; and although the membranes reappeared in other locations, a single slight application would completely remove the newly formed membrane, leaving in its place a healthy appearing granulated surface, which healed kindly without any further trouble.

To recapitulate: The marked features of the epidemic were the limitation of the affection to one house, showing its very slightly contagious nature; the rapid invasion and unfavorable progression if not interfered with; the low rate of mortality; the anæmia which follows; and above all, the unmistakable benefit derived in nearly every case in which vigorous local treatment was employed. In all cases, no matter what general treatment was employed, if the local applications were discontinued for a single day, the case was invariably worse; especially the cough and difficulty of breathing were aggravated.

TYMPANITIC RESONANCE IN PLEURITIS.

By E. FLETCHER INGALS, M.D., CHICAGO.

In pleuritic effusions of considerable extent, the resonance over the anterior-superior portion of the affected side of the chest often has a tympanitic quality. Although most writers on diseases of the chest and physical diagnosis mention this, they omit to give a satisfactory explanation for the phenomenon.

In a review of the fourth volume of Ziemssen's *Cyclopædia*, in the February number of this Journal, we find an explanation of this sign by Fraentzel which we have not seen before. He holds that decrease in tension of the lung lowers, while decrease in volume raises the pitch of the percussion note; therefore he reasons that the sign in question is due to a relatively greater decrease in the tension than in the volume of the compressed lung. The tympanitic sound being considered of low pitch.

This is an ingenious theory but it is not satisfactory. At a temperature far below that of the human body water vapor is constantly rising, and at a temperature of $98\frac{1}{2}^{\circ}$ F. water evaporates rapidly under a pressure of fifteen pounds to the square inch, even though removed from the favoring influences of a changing atmosphere. To verify this, fill a test tube, and invert in water heated to $98\frac{1}{2}^{\circ}$ F.; very soon vapor will collect above the column of water in the tube. If the heat be maintained we can easily collect a considerable quantity of vapor. If a funnel be attached to the tube, so as to collect the bubbles from a larger surface, the vapor will be obtained more rapidly.

To make the conditions of the water in the test tube conform, as nearly as possible, to those of fluid in the pleural sac, we may attach to the tube an elastic rubber bag, having both filled with water. By maintaining a temperature equal to that of the body, we will obtain the same results as in the first experiment.

In these experiments there will be as much pressure upon

fluid in the tube as upon that contained in the chest in pleuritic effusions; at least until the pleural sac becomes distended, and in most cases when distension is great, there is a corresponding elevation of temperature in the body, which increases the tension of the watery vapor sufficiently to overcome the augmented pressure.

These experiments seem to leave no opportunity for a reasonable doubt that evaporation takes place from pleuritic effusions.

It seems fair to presume that alterations in the pleura, either as the direct result of inflammation, or as a consequence of pressure, which are sufficient to prevent the absorption of fluid, must likewise hinder the absorption of watery vapor; therefore, notwithstanding the influence which volume and tension of the lung, or air in the larger bronchi, may have in the production of tympanitic resonance, we believe the sign under consideration is in great part due to a collection of vapor above the fluid in the pleural cavity.

A STUDY OF THE LITERATURE OF PUERPERAL ECLAMPSIA.

By SMITH BAKER, M.D., WHITESBORO', N. Y.

As early as the beginning of this century, a Dr. Hamilton is reported to have noticed that puerperal eclampsia was often preceded by anasarca; but this observation does not seem to have impressed the profession as having much importance, for in 1829, Dr. Harrison is recorded in the *London Lancet*, as believing the disorder due to "injury inflicted upon the uterine nerves." "By the too rapid and forcible dilatation of the cervix uteri, os tincæ, or vagina, some of the nervous fibrils are so suddenly elongated as to become fretted, unduly stretched, or, perhaps, actually torn, if not burst asunder."

About the same time Dr. Blundell, in the same periodical, said, in speaking of treatment, "a main remedy is the abstraction of blood, as largely as the patient may safely bear. There

is a second remedy of very great importance, viz., the thorough evacuation of the alimentary canal. * * You generally, if not always, find symptoms of cerebral efflux of blood; hence, the importance of the complete refrigeration of the head. Lastly, deliver, if you can do it gently, if not, leave to nature." He gave two cases illustrative of his opinions, one of which lived and the other died.

In 1844 the editor of the *London Lancet* quoted several authors as representatives of the opinions of that time concerning the etiology and pathology of this affection. According to Ramsbotham, the most usual proximate cause is probably pressure on the brain, produced by the rupture of a vessel, by serous exudation into the ventricles, or by simple congestion of the cerebral vessels themselves, the affection originating most commonly in some deranged state of the uterus itself, an irritation being propagated from that organ to the brain. According to Dr. Rigby, the exciting cause "is the irritation arising from the presence of the child in the uterus or passages, or from a state of irritation thus produced continuing after labor," while the predisposing causes are "pressure on the abdominal aorta, uterine contraction, constipation, retention of urine, injuries to the head, cerebral disease and mental excitement." According to Burns, the cause is uterine contraction, and sometimes "a neglected state of the bowels." "The sympathetic irritation is almost invariably accompanied by an affection of the vascular system, productive of great determination to the head * * which aggravates the evil, and, indeed, becomes the chief source of danger." "After death, we sometimes find turgescence of the vessels of the brain, but very often no mark of disease elsewhere. According to Lee, "the phenomena are due to a condition produced by sympathy with the nervous system of the uterus." According to Locock, the immediate causes are often very obscure. A loaded state of the vessels of the brain appears to be one. At times the brain seems influenced by distant irritation in the uterus or digestive organs. Attacks are due to a loaded or disordered stomach, or by indigestible food, the straining of labor pains, and even the disturbance of rush of blood to the head, caused by the

earlier uterine contractions, will sometimes bring on the convulsions.

In the same issue of the *Lancet*, W. Tyler Smith attempted to demonstrate that puerperal convulsions are a purely "excitomotor phenomenon." "The convulsions commonly occur," he says, "when the spinal marrow has been acted upon by an excited condition of its incident nerves coming from the uterine organs, such excitement depending on labor, pregnancy, or the puerperal state. While the spinal marrow remains under the influence of these stimuli, convulsions may arise from two series of causes: those acting primarily on the spinal marrow, or *centric causes*, as, 1, loss of blood; 2, pressure from congestion, effusion, etc.; 3, asphyxia from closure of the glottis; 4, emotion; and those affecting the extremities of the incident nerves, or *eccentric causes*, as, 1, irritation of uterine incident nerves; 2, irritation of incident spinal nerves of the rectum; 3, irritation of incident gastric fibres of the pneumo-gastric nerve; 4, irritation of the vesical branches and of those of the surface of the body."

A year later the same writer said, in the same periodical, of the treatment of this affection, that "blood-letting, in fullness of the vascular system, is the most powerful sedative of spinal action that we possess, and is the grand remedy in the simpler forms of convulsion, where the disease depends on stimulation of the spinal marrow by excess of blood. But when the circulation is reduced considerably below par, loss of blood becomes an actual stimulant to the spinal marrow. In convulsions occurring in delicate anæmic women, bleeding is generally inadmissible, being, in fact, itself an exciting cause of the disease. In intermediate conditions, venesection should be followed by stimulation." In addition, "cold water to the head and face, in order to open the glottis, and to relieve cerebral congestion, and avoidance of all emotional excitement," seemed to him of importance.

In 1849 Dr. Murphy gave, in the *Medical Gazette*, as the predisposing causes of this affection, "hyperæmia, anæmia, impure blood;" while he considered the proximate causes to

be "morbid irritation of the uterus; morbid irritation of other organs."

In 1855 a case was reported in the *Lancet* by Dr. Winn, treated by abstracting "twelve ounces of blood and giving a few small doses of calomel." Recovery followed. A year after, however, Dr. Radford reported a case, the treatment of which was "bleeding to twenty ounces, purging with croton oil, and bleeding again profusely," because the convulsions still continued; that terminated fatally.

In 1856 W. Tyler Smith, in the *Lancet*, reiterated his account of causes given ten years previously, and said of bleeding, that in plethoric states "it is in this disease *curative* in its action on the spinal marrow; *preventative* in its action on the brain." He also directed that we "should look to the albuminuria," and to allay the uterine irritation we "may let off the liquor amnii."

To Prof. J. Y. Simpson is credit generally given for having first called attention to the fact that albumen is sometimes found in the urine of pregnant women; while to Dr. John C. W. Lever a like honor is given for having reported, in 1843, that in nine cases out of ten albuminous urine accompanied puerperal eclampsia. But up to about twenty years since this fact does not seem to have commanded the attention of practical physicians to any extent. With the impetus of such a name as Tyler Smith, it is not strange that the profession afterward manifested a deep interest in the subject, and heeded his injunction to "look to the albuminuria."

Contemporaneously with this new phase in the etiology of this disease was the introduction of chloroform as a therapeutic agent. In the *Lancet* of October 5, 1859 a case is reported by Dr. Bullen, treated by chloroform inhalation with recovery. But his action may have been based upon the comprehensive propositions of Dr. Carl Braun, published in the same year at Edinburg. Some of them were as follows:

"Convulsions in females during the generative period depend either upon hysteria, epilepsy, disease of the brain, mineral or vegetable poisoning, or upon uræmic intoxication. The most frequent cause of eclampsia is uræmia and Bright's disease.

"In cases of Bright's disease during pregnancy, if carbonate of ammonia be found in the blood, a speedy outbreak of convulsions may be expected. Eclampsia, *i. e.*, uræmic convulsions, has no immediate connection with the pains and process of labor. Albumen will be found in all cases of eclampsia not dependent upon hysteria, epilepsy, primary cerebral disease, or poisoning. The injurious effects of bleeding in eclampsia have been observed by Kiwisch, Litzman, Sedgwick, Blot and King, and the uncertainty of the practice has been confirmed by our own experience. Chloroform inhalations are the best means of mitigating and bringing to an end uræmic convulsions either during pregnancy labor, or the puerperal period. The diuretics most to be relied upon for the relief of uræmia and Bright's disease are the benzoic, citric and tartaric acids. Artificial delivery is not, as a rule, to be resorted to in Bright's disease, but it may be in actual uræmic convulsions. The most appropriate method of producing labor is by forcibly dilating the vagina [os uteri?] by means of a caoutchouc apparatus.

In the *Amer. Jour. Med. Sci.*, July, 1860, Dr. Chas. A. Lee reported a case treated successfully by chloroform, and also said that congestion of the kidneys from mechanical pressure must be the cause of the albuminous urine, inasmuch as this condition is met with most frequently in primiparae, and disappears in two or three days at farthest after parturition. He believed that chloroform, in the vast majority of cases, "is the sheet anchor of our reliance."

In 1863 Rosenstein expressed his belief that puerperal convulsions are attendant upon an "alteration of the circulation within the brain." Pressure and diluted serum occasion "œdema and secondary anæmia of the brain, and thus may call forth convulsions."

In the *Medical Times and Gazette*, of July 4th, of the same year, strong testimony to the efficiency of chloroform in controlling puerperal convulsions, is borne by Dr. Murphy and Dr. Braxton Hicks; but three years later, an abstract of a report on this affection, by Dr. W. C. Hall, to the Ohio State Medical Society, published in the *Amer. Jour. Med. Sciences*, sums up by declaring that the nature of puerperal convulsions

is yet undecided, the causes undetermined; that uræmia, as the only cause, is denied, if not disproved; that *post-mortem* examinations are unsatisfactory. The almost universal testimony is found in favor of reasonable depletion; the use of chloroform and opiates is strongly recommended, and almost as strongly denounced. "Speedy delivery is the only thing universally agreed upon."

In Vol. 8, *Trans. London Obstet. Society*, Dr. Braxton Hicks says that uræmic eclampsia causes nephritis; the nephritis and the convulsions are produced by the same cause, *e. g.*, some detrimental agent in the blood, irritating both the cerebro-spinal system and other organs at the same time; or the highly congested state of the nervous system, as is produced by the spasm of the glottis in eclampsia, is able to produce kidney complication.

In 1868 Dr. G. Swayne, in the *British Medical Journal*, regrets the disuse of the lancet, and objects to chloroform as a substitute for it.

In the *Michigan Univ. Med. Jour.*, for 1870, Prof. H. S. Cheever reported a case treated by evacuating the stomach, abstracting fifteen ounces of blood, giving five grains of calomel and jalap, each, supplemented in due time by an injection, to secure catharsis, sponging the surface with warm vinegar, and giving small doses of compound jalap powder, to secure action of the skin and kidneys, and keeping the patient well under the influence of chloroform throughout. At the end of twenty hours the child and placenta were successfully delivered, and after much persuasion the former made to live. The chloroform was now withdrawn, but in two and one-half hours the mother had another convulsion, and repeatedly had them, notwithstanding the chloroform was again resumed. Iodide of potassium, strong beef tea, etc., were given until the second day after, when they ceased. Sixty hours later, although injections of morphia, brandy and beef tea were given, the patient died. Albumen was found in the urine throughout.

In the *Transactions of the N. Y. State Med. Society* for 1871, Dr. Harvey Jewett has an article. He had this experience: "Prior to 1860 I find ten recorded cases that were

treated by copious and repeated bleeding, blisters, sinapisms, cold, opium, etc. Out of the ten cases thus treated, seven died. Since that period I find six cases that were treated with chloroform and drastic cathartics, not one of the number were bled, and all recovered."

In *Guy's Hosp. Reports* for 1870-'71, Dr. J. J. Philips says that "the present diminished mortality is probably chiefly due to the less free depletion that is now practiced; and the chief reliance should be placed on chloroform, which prevents the recurrence or diminishes the violence of the paroxysms."

In 1870, Dr. R. D. Fox, in the *Lancet*, reported a case of a fifteen and one-half year old girl who, continuing to have convulsions for hours after delivery, was given a half drachm dose of this agent with marked success.

Dr. Robert Barnes, in his Lumleian lectures (1873) takes this position: Pregnancy and labor require an extraordinary supply of nerve force. This implies a corresponding organic development of the spinal cord. The provision of such nerve force implies a greatly augmented irritability of the nervous centres, rendering them more susceptible to emotional and peripheral impressions. The disturbances in nutrition, occasioned by pregnancy, almost always entail some alteration of the blood, which increases the irritability of the nervous centres. When the blood change is marked by albuminuria, a poisonous action of peculiar intensity is exerted upon the nervous centres, tending to produce eclampsia. Rational treatment must accord with the two great factors in the production of such diseases, namely, exalted nervous irritability and lowered or empoisoned conditions of the blood.

His plan of treatment embraces the induction of labor, where practicable, especially by "puncturing the membranes and leaving the rest to nature;" the induction of anæsthesia by chloroform, which proceeding "now rests upon a solid foundation of clinical facts;" and "when the patient can swallow in the intervals of the fits, the giving at first a scruple or half-drachm dose of chloral, and then every three or four hours a like quantity of bromide of potassium or ammonium." He also says: "I am one of those who think there is more of

fashion than of wisdom in the almost absolute disuse of the lancet; but in this particular case I do not regret the disuse into which it is falling." He would cut off all emotional excitants, and says, "there is no fact in medicine of which a stronger conviction has been forced upon me by observation than this: that all peripheral irritation (*i. e.*, blisters, mustard, poultices, cold, etc.,) is injurious in eclampsia. Hence the rule, where the situation dictates manipulation of any kind, to lull the system in the artificial sleep of anæsthesia."

During the same year (1873), Dr. John Barclay, in the *British Medical Journal*, mentions giving, in a severe case, as a sort of "forlorn hope," half a drachm of chloral in a small starch enema, with results entirely satisfactory, as well as surprising. Dr. Allan D. Barclay, in the same Journal, reports a successively "slight, bad and worse" case checked by the same means.

Dr. T. More Madden, of Dublin, in 1874, (*Medical Press and Circular*,) declares that "some advance has recently been made in the prophylaxis and management of this disease, but its causes still remain *subjudice*, sharing among a variety of circumstances." The state of the uterus during gestation, the remarkable condition of nervous susceptibility, the interference with the venal function, the cerebro-spinal congestion, the irritation of the same by the circulation of vitiated blood, producing a direct toxic effect, all combine to produce such a hyperæsthetic or irritable condition of the excito-motor nerve substance as to "need only the addition of the uterine irritation * * to cause the pent-up nerve force to burst into uncontrollable action," producing eclampsia. He distinguishes puerperal eclampsia from similar affections, by observing that the former is "preceded by œdema of the upper extremities, face and eyelids, pain in the lumbar region, and albuminuria; that for some days before the attack the patient generally complains of *malaise* followed by headache, giddiness, confusion of thought, or peculiar irritability of temper." Treatment with him is especially prophylactic, and has reference to relieving the kidneys by cupping and fomentations over the loins, the free use of diluents, and the continuous administration of

mild diuretics, notably, "colchicum in small and guarded doses; in assisting nature to purify the blood by saline cathartics and diaphoretics, and soothing nervous irritability by sedatives, especially bromide of potassium and belladonna."

In the *Amer. Jour. of Obstetrics*, for August of the present year (1876,) Dr. Henry F. Campbell, of Georgia, puts it "that the proximate cause of eclampsia having been recognized as centric and peripheral irritation, or exaggeration of reflex excitability, then the sole, the grand and consummate indication is to quiet and subdue irritation. * * * The well-known and universally acknowledged superiority and efficiency of opium and its preparations for controlling irritation renders it the first, the most ready, and the most promptly effectual of all the means at the command of the practitioner. * * * Next to opium, in its general applicability, and superior to opium in many specific cases, utterly indispensable to some, we should rank blood-letting as *the* sedative;" and he claims that if not resorted to so frequently as formerly, venesection should at least be retained as "one of the most reliable of all our reliances, while chloroform, chloral, bromides and quinia may all be considered with this as possessing one common therapeutic endowment—power to subdue nervous irritation."

In addition to these selections from various periodicals, we glean from the text-books of the present day the following opinions: Says Cazeaux (1870), "It is evident that all these (the causes) have a tendency to produce irritation of the nervous centres. This irritation is direct, when due to the immediate contact of vitiated blood, and indirect, or by reflex action when it follows the excitement of a distant organ, as the bladder, uterus, etc. I am happy to find, in the work by Scanzoni, a confirmation of these views. * * * Since albumen is present in the vast majority of eclamptic women, it, or the disease of which is a symptom, may be rightfully regarded as the predisposing cause of eclamptic convulsions. I say the only predisposing cause. Usually, general venesection will first be preferred. The vein should be opened largely, and the blood should flow in a full stream. Should it dribble away, or the

jet be very small, the bleeding is almost useless, and another vein had better be opened at once. Simultaneously it is advisable to produce a derivature to the intestinal canal and skin." * * "When eclampsia comes on during either pregnancy or labor, and the closure or undilatibility of the cervix makes it impossible to effect delivery, or when the attacks, having resisted bleeding, and revulsions are very frequent, and threaten the life of both mother and child, the use of chloroform may be of some service."

Says [Elliot (*Obst. Clinic*, New York, 1873,)] "the greatest advantage gained from our knowledge (recent) has been in prophylaxis. * * Instead of suspecting the brain, we now study the kidneys. That we have reached the *ultima thule* of our investigations is not even imagined. * * The pathology of the blood remains comparatively unexplored, and the relation of that fluid, and of the nervous system itself, to the proximate cause of the convulsions, as well as the influence of other toxæmic conditions, offer wide fields for exploration. Pregnancy presents the great clinical peculiarities of being a special excitor, in very many cases, of albuminuria; of materially developing morbid conditions in many chronic cases in which they might possibly have remained latent for a much longer period. Albuminuria, in pregnancy * * entails a special liability to some dangers, such as convulsions and mania."

"Prophylaxis of puerperal eclampsia—Eliminate through the bowels, the skin and perhaps the kidneys. Consider the advisability of inducing labor and of abstracting blood. Diminish the supply of meat and undigestible food. Remove exciting and depressing influences. Do not debilitate the patient. Ward off threatening attacks with chloroform or sedatives. I see every reason for believing that chloroform is the most prompt and certain agent that we possess for moderating the violence and preventing the recurrence of the convulsions."

Schroeder (1873,) quotes Halbertstina as believing that the convulsions are caused by the retention of the constituents of the urine, and that this retention is due "to pressure of the uterus on the ureters." While according to the same author, Traube believes "that the loss of albumen, and the consequent

hydræmia cause by the simultaneous hypertrophy of the left ventricle, a greater pressure in the arterial system, and this leads to œdema of the brain, which shows itself as coma when the cerebrum is œdematous, or as convulsions when the middle portions are affected. According to this theory, an increased pressure suddenly produced in the aortic system, in cases when the blood is in a high degree of hydræmia, leads to hyperæmia of the brain; but on account of the watery condition of the blood, œdema of the brain is the necessary consequence of this hyperæmia. The passage of water into the tissues, again, exerts a mechanical pressure upon the blood-vessels, and leads consecutively to anæmia of the brain. The effect of this acute cerebral anæmia is observed as an epileptic seizure."

He considers the treatment to be effectual only "when narcosis is absolute; that is, when the patient is quite unconscious, so that the voluntary muscles no longer contract. As long as the eyelid quivers, or the body is in any way thrown about, another dose is requisite." This narcosis he would accomplish by means of chloroform, or by the hypodermic injection of morphia. He quotes Reickhard as authority for the sub-cutaneous injection of chloral, and Martin as testifying to the efficiency of the same agent given as an enema.

Dr. Fordyce Barker (*Puerperal Diseases*, 1874.) refers to the work of Frankenhaeser, of Jena, "On the Nerves of the Uterus," in which he says "is demonstrated a direct communication between the nerves of the uterus and the renal ganglia. He (Frankenhaeser) believes that the sudden occurrence of eclamptic attacks following all external sources of irritation (as pressure of foetal head upon cervix, digital examinations, etc.) and from emotional causes, goes to prove that the nervous system, and not the vascular system, is the starting point of puerperal convulsions."

In the same connection, Dr. Barker himself considers that "clinical observations have established that the following conditions are predisposing causes of eclampsia in puerperal women, viz.: albuminuria, hyperæmia, anæmia, uræmia, primiparity, and, perhaps, atmospheric influence, and that anything which produces direct or indirect irritation of any part of the nervous

system may bring on convulsions, as in the pregnant, indigestion, constipation, retention of urine, excessive distention of the uterus, reflex pains, or moral shocks. During labor, besides all these causes, anything which makes pain severe."

Treatment with Dr. Barker is prophylactic, as "removing renal and local congestions, curing anæmia, inducing labor, if necessary, using chloroform, permitting the patient to lose blood, watching the renal secretion, relieving the bladder, and tranquilizing, by means of opiates, or otherwise, as when the attack occurs before labor. If the pulse be strong and hard, with great fullness of the vascular system, and the appearance of the face indicates cerebral congestion, bleed at once. The bleeding is sedative to nervous irritation, it removes the tension from the brain, and protects it from injury." He then gives a brisk purgative, administers chloroform by inhalation, and also a hypodermic injection of morphia. He has been disappointed with chloral.

After this somewhat extended reference to the conclusions of others respecting the etiology and pathology of puerperal eclampsia, it may appear almost presumption to add any suggestion or experience of my own.

It may not seem a very great ascent from the "actually torn or fretted" uterine nerve of nearly half a century since to the "exaggerated reflex excitability," or direct anatomical connection between the "uterine nerves and renal ganglia of to-day;" nor from the "more bleeding the better" doctrine of the past to the "special venesection, chloroform, or eliminato-sedative treatment of the present." But a great advance is, indeed, evident, when we consider that during this time the profession has recovered from the paralysis of routinism to the more healthy condition which permits circumstances to intimate, and reason to dictate, the course to be elected and pursued in such given case; while, also, at the same time, the amount of suffering and the rate of mortality have been largely reduced.

What is needed in addition, just now, is a sharply-defined summary of what needs clearing up, by the study of morbid anatomy and pathology, and of our present knowledge of the means of prophylaxis and treatment.

With reference to morbid anatomy in this disease, it seems desirable to investigate 1, whether there is an actual increase in the structural elements of the spinal cord; 2, whether there is a direct communication between the nerves of the uterus and the renal ganglion; 3, whether there is an unusual condition of the uterine walls or intra-uterine elements; 4, whether there are actual lesions of the kidneys and bladder.

The study of pathology should include the following points: 1, the actual condition and relative proportion of the blood constituents; 2, the actual condition of the various secretions; 3, the question of exaggerated reflex excitability, having special reference to the relation of the blood to the brain and spinal cord; 4, the special influence of the puerperal state; 5, the special influence of the atmosphere and other external conditions.

Although this comprises a wide field for exploration, the combined efforts of the profession may soon accomplish the desired result, if each case occurring in private or hospital practice be accurately observed and faithfully reported. Until then we may act safely, perhaps, in adopting the following plan of treatment:

At a preliminary examination, to be held from two to four weeks before the expected labor, determine so far as possible, whether there be, *a*, hyperæmia; if so, prescribe a low diet, saline cathartics, and potassic bromide thrice daily; *b*, if there be anæmia, order a good diet, *tr. ferri chlor.* after meals, and an aperient pill at bedtime, if necessary; *c*, if œdema or albuminuria exist, these will need the exhibition of *tr. ferri chlor.* with meals, and potassic iodide between meals and at bedtime; *d*, headache, malaise, irritability, etc.; for these, remove the cause, if possible, and if necessary give sufficient opiate to effect relief.

During labor, if convulsions occur, seek out the special conditions of the patient and act as indicated. A full, strong, bounding pulse, and a bright colored mucous membrane will require venesection carried to the extent of securing its sedative effect, a half-drachm dose of chloral per mouth or rectum, means for inducing a movement of the bowels, and a free per-

spiration, relief of the bladder, if distended, and the exhibition of chloroform for anticipating and controlling the convulsions. A feeble pulse, pale membranes, and œdema will, as a rule, require or permit an active cathartic only, and chloral and chloroform. If the convulsions recur, (unless it be previous to the seventh month, when repeated hypodermic injections of morphine should be given, and the labor left to nature for a longer time,) proceed quickly, but gently, to dilate the os uteri by means of tents and Barnes' dilators, puncture the membranes, excite uterine contractions by means of warm uterine douche and ergot, and deliver as soon as possible.

After the delivery is accomplished, let the uterine hæmorrhage proceed moderately, inject, hypodermically, one-sixth to one-quarter grain of morphia, and give broths and stimulants as required; exercise extreme care about the after attentions, as bathing, etc., and prohibit and prevent all disturbances by friends, or otherwise.

In fine, by food, tonics and stimulants, by purging, bleeding or sweating, by quietness, or delivering, by opium, bromides, chloral and chloroform, each in its time to suit the *peculiar circumstances of individual cases*, and guided by judgment unobscured by theories, we may be more successful than hitherto at the bedside of our patients with puerperal eclampsia.

Correspondence.

TREATMENT OF SCARLET FEVER.

[The following communications, sent in response to requests made by the editor of the JOURNAL AND EXAMINER, are contributed by physicians engaged in large practice. Communications of this kind give the best exposition of the various methods of reaching the same object by different lines of practice.—Ed.]

B. M. Griffith, M.D., Springfield, Illinois, writes: Without

entering into a discussion of the etiology, history or pathological elements of scarlet fever, further than to recognize it as a virulent type of an acute, infectious disease, I will proceed at once to the management and treatment of this malady.

Fortunately there are many grades of this disease. There are many cases of a mild type which will recover without any medication, and many that require little more than the observance of hygienic laws. Again there are many cases that require the vigilance and skill of the most astute practitioner to safely conduct the victim through an attack of this disease. To that intense form of the scarlatina, I wish to offer some suggestions in the treatment which has been most successful with me.

Any practitioner of experience in this malady recognizes the fact that "there is no specific for scarlatina." Any careful observer at the bedside will also recognize the fact that those remedies most potent in treatment are those which destroy the specific poison, control the temperature and prevent the disintegration of tissue. Of such remedies, sulpho-carbolate of soda, carbolic acid, salicylic acid, iodine, bromine and chlorine are the principal ones.

Take, as a typical case, a child ten or twelve years old, of good, vigorous constitution, in which the palate, uvula and tonsils are red and swollen, with enlarged and inflamed cervical, inguinal and axillary glands, eruption well developed, high grade of fever, tongue dry, and pulse rapid. The bowels should be kept open, and, for obvious reasons, saline cathartics are preferable, like effervescing crab orchard salts or seidlitz powders. For the throat I generally give this prescription:

R Potass. Chlorat.....	3 ij.
Tinct. Ferri Mur.....	3 ss.
Syrup Simpl.....	3 iij.
Aquæ Destil.....	3 ij.

M. S. Teaspoonful in water, and gargle once in two hours.

In the beginning cold applications to swollen glands and frequent allowance of ice, to relieve thirst and check inflammation about palate, uvula and tonsils.

R. Acid. Salicylic. Sol.....	3 ij.
Potass. Chlorat.....	3 ij.
Aquæ Destil.	3 ij.

M. S. Teaspoonful in water once in two hours.

(N. B.—The salicylic acid solution has two gr. to the 3, prepared with boracic acid.)

If the temperature is very high, and the thermometer registers 102° or over, give salicylic acid solution, two teaspoonfuls in water, alternating with potass. mixture until the temperature is reduced.

Salicylic acid is unquestionably antiseptic, antizymotic and antipyretic, and cannot be too highly praised as a remedy in scarlet fever, diphtheria and typhoid fever. Scarlatina must have a remedy that meets it on the very threshold of its invasion, and contends the ground step by step until conquered and utterly routed. Local remedies are only palliative and adjvants in the treatment, and he who recognizes the constitutional malaise has already taken the initiatory step which leads to victory. Salicylic acid as a remedy meets the indications. Only such remedies as antagonize the disease element ultimately win the battle. Cases treated with this remedy have been unusually exempt from the troublesome and annoying sequelæ of this disease. Albuminuria, dropsy, purulent discharges from mucous membranes, seldom give any trouble.

As a tonic —

R. Quiniae Sulph.....	3 ss.
Tinct. Ferri Mur.	3 ij.
Potass. Chlorat	3 j.
Syrup Simpl.	3 ij.
Aquæ Destil.....	3 ij.

M. S. Teaspoonful in water once in three hours.

Hygienic laws must be strictly enforced, not only for the benefit of the household, but for the assistance in the cure of the patient. Cleanliness, frequent change of clothing for the bed and patient, ventilation, and above all *disinfection*. For the latter vaporized iodine is altogether the best and most pleasant method—less offensive, and more tolerant by the

nasal passages. Half grain of iodine, five grains of iodide of potassium, with an ounce of water, kept in an open vessel at a high temperature, will be sufficient, locally, to relieve the excessive irritation of skin.

R Aquæ Cologniensis..... ʒ iiij.
Glycerinæ..... ʒ ij.

M. S. Apply freely with sponge as often as required.

There are cases which from the beginning show profound depression from the poisoned condition of system.

R Ammon. Carb. ʒ iiij.
Syrup. Aurant. ʒ j.
Emuls. Amar. Amygd. ʒ iiij.

M. S. Teaspoonful once in two hours, or oftener if necessary, until good circulation is restored, alternating with sol. salicylic acid, teaspoonful doses.

The salicylic acid lessens the temperature; it does so as an antiseptic and antizymotic, antagonizing the poison which is producing depression.

In those cases of painful ulceration of fauces and tonsils —

R Chloral. Hydrat..... ʒ j.
Glycerinæ ʒ v.

M. S. Applied with brush, gives great comfort, enabling the patient to swallow medicine and food without so much pain.

Sol. of mur. ammon. may be substituted for the ice or cold water to glandular inflammations, by cloths dipped in the solution and applied.

F. B. Haller, M.D., of Vandalia, Illinois, says: My treatment in the main is expectant. In the early stage I usually give an emetic of ipecac, and frequently follow it with a cathartic of calomel and rhubarb. I then place them on chlorate of potash and ipecac, in small doses, at short intervals, watching the progress of the disease; treating symptoms as they are manifested. If the fever is high, give veratum viride and spts. nitr. dulcis; if the throat is sore, use a gargle of chlorate of potash or Watson's chlorine mixture. I am care-

ful to have the room well ventilated, and keep my patients as much isolated as possible.

When desquamation sets in I put them on a liberal diet, and vigilantly watch the kidneys to keep them in as near a normal condition as may be; keep an eye to the throat and ears, so as to guard against any trouble with them.

This is an outline of my general treatment in ordinary cases.

In malignant cases of a typhoid grade, where the vitality is very low, I resort to stimulants and the supporting treatment from the beginning, I think with advantage. It is astonishing to me to see how much stimulants are required in some cases to keep up the vitality until the disease has spent itself.

I have no specific or hobby on scarlet fever. I am not much of an admirer of specifics. I believe in treating symptoms in all diseases and grades.

Lucius Clark, M.D., of Rockford, Illinois, says: As to scarlet fever and its treatment, I have no specific plan. During eruption I anoint the skin with lard freely and often. If fever is high, as shown by thermometer, I use quinine in full antipyretic doses, also veratum viride carefully. If any symptoms of special congestion of kidney, I foment the lumbar region faithfully; for gargle, if fauces inflame, I prefer bisulphite soda, used same as I formerly used chlorate potash — I fancy it is a better anti-ferment. Also I direct some of the solution to be swallowed often, unless diarrhoea is present. I want mouth and fauces washed often; and not least, full and free ventilation all of the time.

Hiram Nance, M.D., of Kewanee, says: My method of treating scarlatina is very simple indeed. Believing scarlatina to be strictly a self-limited disease, and having no confidence in any remedial agent to abbreviate its course, my only object is to render my little patient as comfortable as possible until the *vis medicatrix nature* accomplishes the cure. In my opinion, as a general rule, there is too much medication, and I have taken the liberty to denounce the administration of specifics and vaunted remedies that have gained the reputation of curing

scarlatina, and would caution all young physicians not to place much confidence in the so-called new methods for its treatment.

An article was read before the State Medical Association, at Jacksonville, at its session in 1875, by one of our members, which related unparalleled success. I don't wish to criticise in this short article, but would say that if we could all succeed so well we need not look farther for a panacea. Better trust to continued *aqua destillata*, or any other *placebo*, than administer cathartics, emetics, and such like remedies. Let us err, if we err at all by the administration of any remedy, by not giving anything that will endanger the life of our patient.

I treat my patients, whether *simple*, *anginose* or *malignant*, nearly all alike, varying the treatment very little indeed, to suit the variety of cases and types. I feel confident that medical men have placed too much confidence in medicine in this disease; and I hope this short article may lead many young men to halt before anticipating speedy relief from some newly introduced remedy or new method of treatment.

When called to a patient, I immediately have the room properly warmed and ventilated, keeping the temperature at about 68° or 70°, with the windows let down from above; permit no drafts of wind through the room, but let the contaminated air escape from above. If we have more patients than one at the same house, let each little one have a couch or bed to itself; order all the cold water they desire, or even ice water and lemonade would not be inappropriate; also order the mother or nurse to rub the child four or five times a day thoroughly with lard, and not to be afraid of putting on too much; give no cathartic, nor permit the idea of emetic to enter my mind. Should the patient's bowels remain unmoved for four or five days, I order a mild injection, or give a small dose of magnesia, or what is probably better, give cream of tartar or *pulv. jalap. comp.*

From the time I am called until the exanthematous rash is entirely gone, I give to a child from two to three years old the following prescription:

R. Acid. Hydro Chloric.....	3j.
Syrup. Simpl.....	3 ij.
Pot. Chlorat.	3 iij.
Aquæ Ros.	3 ij.

M. Sig. One large teaspoonful every two hours; for a child six or eight years old, increase the dose to half a tablespoonful.

I consider this treatment a good one; and after a practice of about thirty years, I am not disposed in the least to try any other. If the patient is restless, nervous, and can't sleep, I give tinct. opii camph., or small doses of sol. morphinæ. If cerebral symptoms manifest themselves, I would give *hyd. chloral*, combined with potassic bromide. I never use any throat wash, nor probang saturated with any astringent or escharotic, believing that the muriatic acid and chlorate potash in the medicine are sufficient to cleanse the throat in the act of deglutition.

This is my treatment in brief, varying it but little in any case during the active stage.

A physician who leaves his patient for cured, and does not give strict instructions about the future nursing, is culpable in the extreme. No patient, no matter how light the disease has been, is safe for two or three weeks, for dropsy in some form is liable to make its appearance and hurry our little patient off with hydropericardium, ascites, albuminuria or some other allied symptom. So before leaving tell the mother or nurse to keep the patient in the house for ten or fourteen days; use warm flannel clothing, and sponge the surface every three or four days until the desquamation is complete.

H. Wardner, M.D., of Cairo, Illinois, writes: In my treatment of the disease my patients were isolated as completely as the circumstances of each case would allow. Free ventilation and even temperature were insisted upon, as well as cleanliness of the patient, the clothing, and all the immediate surroundings. The air of the sick room and of the house generally was disinfected by the use of bromo-chloralum, or other non-offensive disinfectants. Soiled clothing was soaked in water

medicated with carbolic acid, chloride of lime or permanganate of potash for twenty-four hours or more.

The patients were sponged during the febrile stage from two to six times in twenty-four hours, with water of a temperature to be agreeable to the patient. After the appearance of the rash they were anointed night and morning with olive oil, and this was kept up until after the desquamation was completed. When the oil was not convenient, a piece of fat bacon supplied its place. This part of the treatment I considered very important, for reasons not necessary to give here. A liniment, consisting of olive oil two parts, chloroform and aq. ammon. each one part, to which laudanum or belladonna was sometimes added, was applied to the neck and over any part where there was pain and swelling. Whenever suppuration was pretty certain, the parts were poulticed and the pus evacuated as soon as practicable. I used iodine in some cases, but did not see much benefit from it.

I used a gargle consisting of saturated solution of chlorate of potash *three parts*, glycerine *two parts*, tinct. digitalis *one part*, with a little morphine when required; also a gargle of solution of carbolic acid. These were used alternately every one or two hours, as required. Ulceration of the throat was treated by the application of tinct. chloride of iron, compound tinct. of benzoin or permanganate of potash, as required.

The internal treatment during the febrile stages consisted of very small doses of digitalis, combined sometimes with the same or smaller doses of sulphate of zinc. It is given in solution $\frac{1}{48}$ of a grain of each every two hours, amounting to $\frac{1}{4}$ of a grain in the twenty-four hours. In some cases the zinc is not well borne by the stomach, and must be left out. The tinct. of gelsemin. or spts. of nitre was given with, or alternately with the above, as indicated.

Lemonade was allowed freely where the stomach was not irritable. Where irritation of the stomach existed, equal parts of sweet milk and lime water were given as a drink in small quantities, and repeated as often as the patient desired or every hour or two.

Quinine was also an important remedy, and was used accord-

ing to the indications in each individual case. In young children it was made into an ointment, and rubbed over the body in place of the olive oil.

The sequelæ were treated on general principles with tonics, alteratives and local applications, *pro re nata*.

In dropsy I used iod. potash, but more especially the "skimmed milk" treatment. I will say that in albuminuria, from any cause, I have not found a more valuable remedy.

In the mildest cases but little medical treatment was employed, attention being principally directed to the surroundings and comfort of the patient.

In all cases an even temperature of the room was kept up as far as possible, and the patient forbidden to leave the house for two weeks after the subsidence of the fever, or until after the desquamation was completed.

DEATH FROM TWENTY GRAINS OF CHLORAL.

CHICAGO, February 12, 1877.

TO THE EDITOR OF THE CHICAGO MEDICAL JOURNAL AND EXAMINER: Dr. A. Ashbaugh has given me the following notes of a case of poisoning by chloral which he witnessed in the office of a friend, in Monville, Mo., about three years ago. The case has never been reported:

A German woman, about thirty-three years of age, apparently healthy, came into the office to have some teeth extracted. She desired some medicine to prevent the pain, and the doctor gave her ten grains of hydrate of chloral, which dose he repeated in one hour. Soon after the second dose the patient manifested alarming symptoms of poisoning, and although all was done that could be to resuscitate her, she died in about fifteen minutes. No *post mortem* examination was made. The patient had taken only two doses of the chloral, of ten grains each — the second having been given one hour after the first.

E. FLETCHER INGALS, M.D.

AN ELEGANT DISINFECTANT.

50 DOUGLAS PLACE, CHICAGO, February 12, 1877.

EDITORS OF THE CHICAGO MEDICAL JOURNAL AND EXAMINER:

Gentlemen—Allow me to call attention to a disinfectant, which, being free from disagreeable odor, is an elegant substitute for carbolic acid, chlorine, etc., and may properly supersede them in drawing rooms, sleeping rooms, etc., where odor would be objectionable. I refer to a solution of salicylic acid in *eau de cologne*. In “cologne” this acid is very soluble—my druggist dissolves thirty-six grains to f 3j. Its antiseptic virtues are well attested. It may be used by means of a spray atomizer upon carpets, curtains, clothing, etc.; and the physician will find it the pleasantest method of disinfecting his clothing to prevent the spread through him of the pestilential diseases which are affecting our city at the present time. Many persons—ladies especially—while traveling in horse cars and frequenting churches, halls, etc., drop a few drops of a solution of carbolic acid upon their handkerchiefs. It occurred to me that a good substitute would be an ordinary pungent, in which might be dropped some of the salicylic acid solution. It would certainly be a degree more æsthetic, which is not to be despised in public or private.

DR. JAMES I. TUCKER.

The Superintendents of the American Institutions for the Improvement of Idiots and Feeble-minded Children having formed an Association for the more rapid advance and spread of their special part of medical science, resolved, not only to unite their efforts, but to seek the assistance of physicians in general practice who can help them to elucidate the cause of idiocy and kindred affections.

Communications from physicians of the cause of idiocy which have come to their knowledge from reliable witnesses or personal observation, should be sent to the Secretary of the Association, I. N. Kerlin, M.D., Superintendent of the Pennsylvania Training School for Feeble-minded Children, Media, Pennsylvania.

Selections.

THE FUNCTION OF THE UVULA AND THE PROMINENCE FORMED BY THE AZYGOS UVULÆ MUSCLES.

By THOS. F. RUMBOLD, M.D., St. Louis, Mo.

(From the St. Louis Med. and Sur. Journal, Dec., 1876.)

In the spring of 1870 I had a patient whose right nostril was of sufficient caliber to admit my little finger in its whole length. The idea occurred to me at once that this case pre-

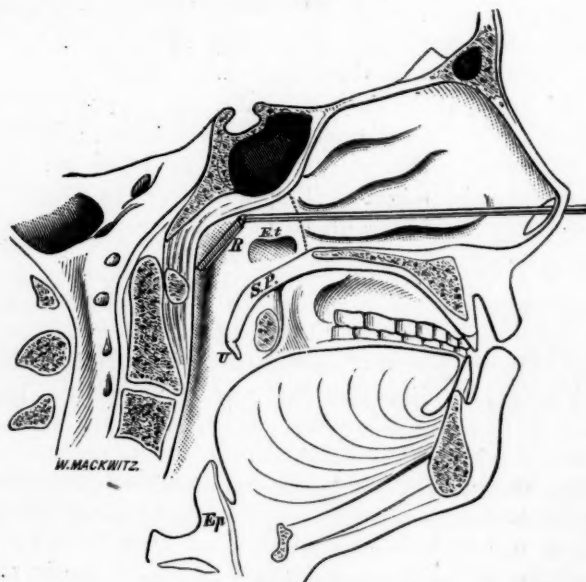


FIGURE 1.

Antero-posterior section of the head; R. reflector; S. P. soft palate; U. uvula; E. t. mouth of Eustachian tube; Ep. epiglottis.

sented an excellent opportunity for examining the uvula; and as our authorities say of this grape-shaped appendage, that

* "its use is not clear,"* I determined to take advantage of this opportunity to inspect its motions during mastication, deglutition and vocalization.

I had the patient keep this nostril wide open with a Kramer bi-valve ear speculum. Through this large nasal passage, thus dilated, I passed a reflector reaching to the posterior wall of the pharyngo-nasal cavity (Fig. 1, R); on the mirror (R) I directed a calcium light, illuminating the parts under observation, so that the image was reflected back to my eye very dis-



FIGURE 2.

View of the posterior nasal passages, the posterior surface of the soft palate and base of the tongue; Pt N. posterior nares; E. t. Eustachian tubes; Az-Pr. azygos prominence, on the upper surface of the soft palate formed by the azygos uvulæ muscles; S-l. semi-lunar openings formed by the tongue, uvula and soft palate; T. base of tongue; Ep. epiglottis; U. uvula.

tinctly. In this way I was enabled to inspect the upper or posterior surface of the soft palate, and the prominence or ridge on it that the azygos uvulæ form (Fig. 2, Az-Pr), the base of the tongue (T), the epiglottis (Ep), and the larynx, at the time of the attempted phonation of the sound "æ" with the mouth closed.

My observations on this patient were continued for a period of five weeks. Subsequently I made numerous observations

* Dunglinson's Med. Dic.

of a similar character on six other patients, each of whom had lost the septum nasi, but had perfect soft palates.

From notes that were taken at the time of these inspections — about seventy-five in number — I will state what part, in my judgment, the soft palate, the uvula and the azygos prominence (Fig. 2, Az-Pr., and Fig. 3) take in the acts of mastication and deglutition, and what were their positions at the time of the phonation of such simple sounds as show enough of their action to demonstrate their proper function; reserving for the

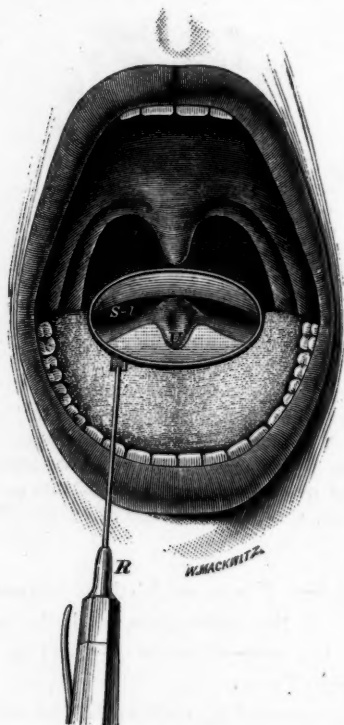


FIGURE 3.

The image, seen on the hinged reflector (R), of the lower edge of the soft palate and the lower or posterior concave surface of the uvula (U), showing, also, the higher semi-lunar-shaped openings (S-L) made by the azygos prominence touching the posterior wall of the pharynx.

near future the details concerning the position of these three organs, as well as that of the base of the tongue and the epiglottis during the phonation of specified sounds.

Although I know now that the uvula and the azygos prominence (Figs. 2 and 3) are not required to aid the acts of mastication and deglutition, yet I will give the results of the inspections while these processes were going on, because these results contain points of interest when taken in connection with phonation.

During mastication, the whole free border of the soft palate rested on the base of the tongue, reaching within a short distance of the epiglottis. In five of the cases, the uvula was not

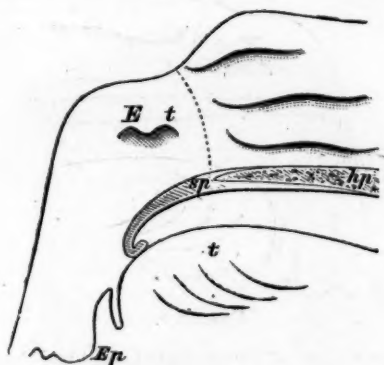


FIGURE 4.

Antero-posterior section of the hard palate (hp.) and the soft palate (sp.), showing the position of the uvula resting on the base of the tongue (t); Ep. epiglottis; E. t. mouth of Eustachian tube.

in sight at any time, and seemed to be doubled under the velum, so as to lie between it and the tongue (Fig. 4). Two patients had elongated uvulas, which sometimes hung down on the base of the tongue, and frequently touched the epiglottis. The uvula was always contracted; the evidence of this condition was the increased height of the azygos prominence, formed by the contracted azygos uvulæ (Fig. 2, Az-Pr).

During the act of deglutition, the soft palate was pushed backward by the alimentary bolus until the posterior wall of

the pharynx was reached; the motion was continued in an upward direction until the upper surface of the velum was high enough to cover and close both Eustachian tubes (Fig. 2, S. P. E. t.) pushing the reflector (R) upward and forward; then the velum descended, as the alimentary bolus was swallowed, until its lower border touched the base of the tongue.

When I began to make observations, my attention was directed to the uvula alone; but the varying height of the azygos prominence during vocalization (Fig. 2, Az-Pr.) in this, my first patient, drew my attention to it, and what I discov-

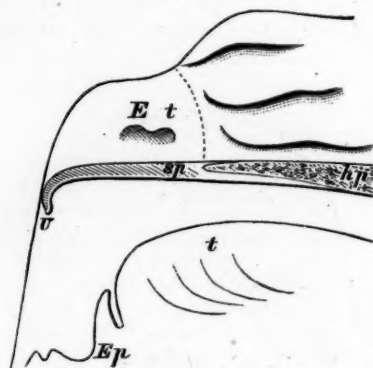


FIGURE 5.

Antero-posterior section of the hard palate (hp) and the soft palate (sp), showing the position of the velum closing the avenue to the pharyngo-nasal cavity; U. uvula; t. tongue; Ep. epiglottis.

ered with respect to it was confirmed in the subsequent examination of the other cases, namely: that this prominence, whose existence I had known for some time, though I had never thought of assigning to it any function or use, was of as much importance in vocalization as, if not more, than the uvula itself; so that, while seeking for the function of this grape-shaped appendage, I discovered a new organ, and ascertained its function at the same time.

During the vocalization of sounds that passed through the nose alone, the whole free border of the soft palate rested on the base of the tongue (Fig. 4), the uvula was not in sight at

any time. During the vocalization of sounds that passed through the mouth alone, the soft palate was raised, and about 4''' of its lower border was pressed against the posterior wall of the pharynx (Fig. 5).

From repeated inspections made while the velum was in each of these two positions, it appeared that all the sounds were uttered without the aid of either the uvula or the azygos prominence.

The favorable opportunity for observing what assistance is rendered by the azygos prominence and the uvula is during the phonation of such sounds as are required to pass through the mouth and nose at the same time. While these sounds were uttered, the soft palate was either suspended, so that but a



FIGURE 6.

View of the anterior surface of the soft palate, the uvula and the base of the tongue, showing the lower semi-lunar-shaped openings (S-L.) formed by the uvula (U.) and a part of the central portion of the velum resting on the base of the tongue (B. T.)

small part of its central portion of the uvula rested on the base of the tongue (Fig. 6), or it was raised to such a height that the azygos prominence touched the posterior wall of the pharynx (Fig. 3). In each situation that the velum occupied, the communication between the fauces and the mouth, and between the fauces and the pharyngo-nasal cavity, was divided into two equal, or nearly equal, semi-lunar openings. In the first position named, the division was made by the uvula and a small part of the central portion of the velum resting on the base of the tongue (Fig. 6, S-L), and in the second position the partition was made by the azygos prominence (Fig. 3, S-L), touching the posterior wall of the pharynx. In one patient I noticed, on several occasions, that the uvula seemed to be

resting on the base of the tongue, while, at the same time, the azygos prominence was touching the posterior wall of the pharynx.

The formation of the inferior or posterior surface of the uvula (Fig. 3, U,) as well as the peculiar position in which it hangs from the velum (Figs. 1 and 2, U,) indicates that this surface lies on the base of the tongue frequently, its extremity being directed forward (Fig. 4). It is evident that this position is the best one in which it could be placed to prevent the free edge of the soft palate from being shaken by the force of the air from the lungs.

It was observed, repeatedly, that the free border of the velum was not at any time suspended in the current of air during vocalization, but was always situated in such positions that it received support, which prevented it from being thrown into vibrations by the force of the air that came from the larynx. To show how the support was given, I will mention again all of the principal positions that this vocal valve was observed to assume. (*a.*) It was either elevated and pressed against the posterior wall of the pharynx (Fig. 5, U,) during the phonation of sounds that passed through the mouth alone; or, (*b.*) removed from this wall a small distance, but not so far as to prevent the azygos prominence from touching it (Fig. 3, seen in the image on the reflector R,) for sounds that passed mostly through the mouth and a little through the pharyngo-nasal cavity; or, (*c.*) lowered to allow the uvula and a small part of the central part of the velum to rest on the base of the tongue (Fig. 6,) for sounds that passed mostly through the nose and a little through the mouth; or, (*d.*) still lower, so that its whole free border rested on the base of the tongue (Fig. 4,) for the formation of sounds that passed the nose alone. In a few instances, as have been mentioned, I have seen the second and third positions combined, *i. e.*, the uvula resting on the base of the tongue, and the azygos prominence touching the posterior wall of the pharynx at the same time (Figs. 6 and 3).

From the effect of these positions of the velum on phonation, it would appear that one of its functions is to act as a valve, by directing the voice from the larynx into the mouth

alone for the formation of one kind of tone; into the nose alone for another; and to divide the sound so as to allow it to escape from both of these openings for still others. It is evident that while the velum is resting wholly on the base of the tongue, or is pressed against the posterior wall of the pharynx, that the liability for its free border to vibrate by the force of the air is reduced to a minimum; but when this valve is in either position that requires it to divide the sound between the mouth and the nose, then, on account of its free edge being suspended and placed immediately in the current of air from the larynx, the liability for it to vibrate is increased to a maximum.

A provision is necessary to prevent these vibrations. This provision, I am led to believe from my observations, is found in the uvula and the azygos prominence formed by the azygos uvulae muscles. It is located in the centre of this very mobile palate or valve, and by its support in both of the positions that require suspension (Figs 3 and 4,) prevents it from being shaken by the force of the current of air from the lungs. There can be no doubt, that if there were no uvula and azygos prominence to prevent this thin edge of suspended flesh from vibrating, it would be shaken to such a degree as to impart a tremulousness to the tone of all sounds forcibly uttered that pass through the mouth and nose at the same time.

The following questions have been asked frequently:

"1st. If the uvula is required to prevent the free border of the velum from vibrating during phonation, will not its loss impair the voice?"

"2nd. How do you account for the improvement of the voice in many instances, after its removal?"

The excision of the uvula can affect those sounds only which are formed by its assistance, and not then, even, if they are pronounced with the usual strength of the voice, because the contact of the central portion of the velum on the base of the tongue will be support enough to prevent the velum from being shaken; therefore, the difficulty in pronouncing, in high and loud tones, those sounds that are required to pass mostly through the nose and a little through the mouth will be in proportion to the amount of loss of support that the velum

suffers; as usual excisions leave a stump of the uvula and the central portion of the soft palate, these will prevent any vibrations during speech made with the *usual* force of the lungs.

I have observed that a patient, who has just undergone an operation for excision of an elongated and hypertrophied uvula, may talk immediately in an *ordinary* tone with greater ease than before the operation; but, just as soon as he utters words with *more* than the *usual* force of voice, such, for instance, as he would require to address a person across the street, some of the efforts will remind him of the excised uvula, and though not causing as much pain as the knife did, will cause so much that he will be compelled to cut his sentence short of its intended length. The reason of this effect on the uvula appears to me to be this: the heavy uvula had given so much support to the soft palate that, although it had been acting as an impediment to all kinds of sounds, the velum required very little of its own pressure on the base of the tongue (Fig. 6) to prevent it from being thrown into motion by the air from the larynx; but when the superabundant portion of the uvula was removed, the velum required greater pressure upon the base of the tongue to prevent these vibrations, and this pressure was the occasion of the pain. Of course, the loss of the whole of the uvula does not interfere with the formation of the two semi-lunar-shaped openings by the free border of the velum and the dorsum of the tongue (Fig. 6), by which the voice is allowed to escape from the mouth, and thus provide for perfect vocalization; it takes away a *part only* of the support from the soft palate. Even if there be no stump left by the excision, the tongue will learn to overcome the defect by the increased elevation of its dorsum, which may be made more convex than was required to form the two semi-lunar openings than when the whole of the uvula was present, and in this way allow both of a greater pressure and more of the central portion of the velum to rest on the tongue. But if the soft palate suffer so much of a loss of substance in its central portion that its concavity is equal to the convexity of the dorsum of the tongue, thereby preventing the formation of the semi-lunar-shaped openings, and neutralizing all support, there will be some

sounds, such as pass mostly through the pharyngo-nasal cavity and a little through the mouth, given imperfectly, in spite of all efforts to overcome it, because the proper tone requires that the velum should be raised to allow a part of the sound to pass to the mouth, and this act of elevation exposes it to the force of the air from the larynx, which force is the cause of the imperfection of the sounds, by causing the unsupported edge to vibrate. Again, if the loss in the center of the velum be greater than can be closed by the greatest convexity of the dorsum of the tongue, the disability will be equal to that caused by a perforation of the soft palate, and in addition, there will be a tremulousness to many semi-nasal tones, on loud speaking, as addressing an individual at a distance. That the intermittent tone is occasioned by the vibrations of the central portion of the velum is evidenced by the pain in this part after lengthy speaking in a loud voice. This pain was experienced by two patients while under my care, whose soft palates were notched to this extent by ulceration.

In answer to the second question—"How to account for the improvement of the voice after the removal of the uvula?"—I would ask, if it is claimed that this improvement in speech is equal to the patient's vocalization at the time that his uvula was in a healthy condition. I am sure, because the observations made on this subject during the last five years have taught me to be so, that the answer to this question should be given in the negative. That a relative improvement in speech does follow an excision of an elongated or hypertrophied uvula, there can be no doubt, because this operation brings the organ nearer to its normal size and condition; but it resembles the improvement made by perforating the membrana tympani in a case of deafness caused by a closure of the Eustachian tube; such an improvement can never equal the normal function of the organ. This being the case, the effect of the excision will be to remove the cause of a mechanical hindrance to every word uttered by the patient, made in any degree of force, and it will leave a stump which will not be a cause of hindrance, but a cause of an inability to pronounce some words on forced vocalization only, and this even will be overcome in

time by the dorsum of the tongue becoming more convex. Therefore, to admit that the removal of a uvula thus diseased may improve the ability to speak in the usual tone of voice, does not prove that it was the uvula's removal that was the origin of the improvement, for, if such were the case, the excision of the healthy uvula would not only be advisable, but desirable.

The effect of the amputation of the whole of the uvula, besides its being a loss of the greater part of the support to the velum, prevents the formation of the azygos prominence to its greatest height, which is done by the contraction or elevation of the azygos uvulæ muscles, which terminates in the uvula. This height of the prominence is required to prevent, by its contact with the posterior wall of the pharynx, the vibrations of the velum during the formation of many semi-nasal sounds.

The nearer that the surgeon can make the diseased uvula take the shape and size of the normal one, the nearer will it approach its normal function; that is, rendering the soft palate a non-vibratory valve, which is required for perfect phonation.

Hospitals.

ST. LUKE'S HOSPITAL.

FIVE CASES OF INTERNAL HÆMORRHOIDS TREATED BY THE CLAMP AND ACTUAL CAUTERY.

(UNDER THE CARE OF JNO. E. OWENS, M.D.)

CASE I. Internal piles, complicated with hypertrophy of the uterine cervix and painful ulceration at the anus.

Mrs. W., aged 44 years, was admitted to St. Luke's Hospital Jan. 10, 1874. Ten days after admission Prof. DeLaskie Miller amputated the neck of the uterus for hypertrophy. The patient had suffered from internal piles for seventeen years. Her health was seriously impaired from loss of blood from the rectum, from pain, and other distress occasioned by a cluster

of purple hæmorrhoidal tumors, which protruded on all occasions. Feb. 1, I applied the clamp and cautery seven times to as many tumors. A tag of skin, inflamed, œdematous and ulcerated was at the same time removed with the scissors. This patient did not recover with the promptitude usually noticed after operations for piles, and the case, in this respect, verifies Allingham's statement, that patients with uterine complications recover slowly from operations upon the rectum. She experienced a sense of obstruction while at stool; pain, more or less severe, began with defecation, and continued from one to six or eight hours after the completion of the act. The cut surface at the site of the tag of skin above referred to had become (Mch. 6) a painful ulcer, the upper margin of which barely touched the verge of the anus. As the ulceration did not pass within the anus, I hoped to be able to effect a cure without incision. Suffice to say that I failed with ointments, lotions, separation of its surfaces, nitrate of silver, rest, etc. Finally, April 22, I incised the ulcer and that part of the sphincter muscle contiguous to it. This relieved the characteristic pain, the ulcer healed, and the patient was discharged May 19th. Eleven weeks after the operations for hæmorrhoids an opportunity presented itself for the examination of the rectum with the object of noting its condition after the application of the actual cautery. The lower part of the rectum was less distensible than the normal rectum; its mucous membrane was smooth; firm, irregular scars were felt in and apparently beneath the mucous membrane, but they were not visible, and could only be located by the sense of touch. The patient has continued well to this date, Feb. 8, 1877.

CASE II. T. O'B., aged 50 years, had suffered, in consequence of internal piles, for fourteen years. The tumors bled more or less every week, and protruded daily. He had some pain, frequently in the anus, and also over the sacrum, and about the hips. Thus afflicted, he was obliged to work, to ward off starvation. Having been admitted to the hospital, the operation with clamp and cautery (Leplié cautery clamp*) was

* See Braithwaite's Retrospect, July, 1874, page 118.

performed Jan. 2, 1875. Six applications were made. The patient was put to bed, and no dressings were used till Jan. 8th, when the swollen mucous membrane of the rectum, as is usual, protruded somewhat. This yielded to dressings of cold water, together with moderate pressure. The pain following the operation was of light degree. The bowels were kept constipated with laudanum for three or four days. The patient was discharged cured in eleven days from the date of the operation.

CASE III. H. D. G., aged 40 years, was admitted March 4, 1875. In this case the clamp and cautery were applied seven times, March 9, 1875; the patient was then put to bed and cold water dressings employed. Anodines were not indicated. March 10, A. M., an injection of two ounces of warm castor oil was ordered, and at 4 o'clock P. M. two drachms. The bowels moved at 7 o'clock P. M., and also on the morning of the 11th. The patient did not suffer. I have no note of the duration of the man's affliction, but the case was one of unusual severity. In consequence of hæmorrhage and pain he was absolutely unable to follow his trade, that of harness making. He had tried many so-called remedies without benefit. March 12, the third day after the operation, the patient expressed himself as feeling better than he had done in a long time, and started for his home in Indiana. I afterwards received a letter from him confirming the satisfactory result of the operation.

CASE IV. L. A. S., aged 44 years, a shoemaker, was admitted March 21, 1876. He had had internal hæmorrhoids for twenty years. During the last seven years the tumors had not bled, but previous to that time the hæmorrhages were of frequent recurrence. March 22, two applications of the clamp and cautery were made. The patient was put to bed without dressings. March 25, the bowels responded to injections of warm castor oil. The protrusions of swollen rectal mucous membrane was very slight, not greater in size than a pea. March 29, the seventh day after the operation, the patient went to his home in Illinois, about five hours ride from Chicago.

CASE V. M. M., aged 45 years, came to the hospital Aug. 11, 1876. The same day three large hæmorrhoids were disposed

of by means of the clamp and cautery. The subsequent swellings and protrusions of the mucous membrane were slight. The patient left the hospital Aug. 15, the fourth day after the operation.

COOK COUNTY HOSPITAL.

COMPOUND FRACTURE OF THE LEG; AMPUTATION; HOSPITAL GANGRENE; AMPUTATION OF THE THIGH; LIGATION OF THE EXTERNAL ILIAC ARTERY; RECOVERY.

R. V., a German carpenter, aged 44 years, admitted to Cook County Hospital May 6, 1872, states that, attempting to get on a street car while in motion, he fell under the wheels. On examination, it was found that the right leg was crushed, most of the lower third being involved. There were three small openings of the skin, but not much hæmorrhage. The main vessels were intact. The patient being opposed to having the leg amputated, it was decided to place it in a fracture box and to make light extension. Carbolic acid lotions were applied, and morphia was given to relieve pain.

May 21. Extensive gangrene of the soft tissues ensued, but finally a line of demarcation formed in about the middle of the leg. The patient was then willing to submit to whatever the surgeons decided upon. Dr. Freer amputated the leg at the junction of the middle and upper thirds. Circular operation.

Considerable inflammation and induration remaining below the knee, it was decided not to close the flaps with sutures, but simply to draw them together with adhesive straps.

July 27. Phlegmonous inflammation and protracted suppuration had followed the operation. The loss of the tissues and the consequent retraction of the integument had been so great as to leave no covering to the bone. Therefore the stump has to be reamputated.

July 31. Erysipelas extending up the thigh. The tincture of iodine, and cloths saturated in a solution of the acetate of lead were applied.

Aug. 20. Discharged from the hospital at his own request.

Oct. 1. Readmitted to hospital, because the stump failed to heal. The acid nitrate of mercury was applied.

Oct. 18. The stump acquired a healthy granulating surface. Three points were inserted by grafting.

Oct. 28. The patient has not been feeling well for several days, having considerable fever, thirst, loss of appetite, coated tongue, and great pain in the stump. The latter has assumed a gangrenous aspect in the granulated portion. The edges are being eaten away very fast. Quinine is prescribed in four-grain doses three times daily, and carbolic acid is applied to the stump.

Nov. 7. The sloughing has ceased, and the patient is doing moderately well.

Nov. 10. Stump clean, although it gives him pain. Appetite poor. Soreness of the throat complained of. Upon examination a small, deep, well-defined ulcer was discovered on the right side of the soft palate. Tincture of iron and chlorate of potash were ordered as a wash.

Jan. 28, 1873. Reamputation of the stump by Dr. Powell, three-fourths of an inch of bone being removed. There was considerable hæmorrhage. The wound was left open for an hour or so. When nearly all bleeding had stopped it was stitched together, but had to be reopened in a short time and packed with sponges soaked in persulphate of iron solution.

Jan. 29. The sponges were removed and the wound was packed with lint soaked in carbolized oil.

Feb. 3. A slight hæmorrhage took place this morning. Stump very tender. A violent hæmorrhage about 4 p. m., the blood coming from the popliteal artery, the tissues being very soft and the artery retracted. A tourniquet was applied, and the open end packed with sponge soaked in a solution of the persulphate of iron.

Feb. 4. A little bleeding again this morning. 3 p. m. Dr. Powell amputated the thigh at the junction of the lower and middle thirds. There was but very little hæmorrhage. The cut surfaces were closed at the end of an hour by sutures. About an hour later slight bleeding occurred, enough to stain the dressings.

Feb. 5. About one o'clock this morning a little more hæmorrhage took place. About three o'clock the stump became very painful, and a short time afterward bleeding again was noticed. About four o'clock the dressings and bed were considerably stained.

Feb. 18. Two weeks to-day since the last operation. All the ligatures except one have come away. About noon, while the patient was resting quietly in bed, he felt a slight twinge in the stump, followed in a few moments by bleeding. The bandage becoming saturated, the hæmorrhage ceased.

Feb. 23. About noon a copious arterial hæmorrhage occurred. Dr. Bogue ligated the common femoral artery about half an inch below Poupart's ligament. The artery appeared to be very friable; for, in passing the ligature, the artery was accidentally opened. Another copious hæmorrhage ensued. The artery was tied both above and below the puncture with a silver wire, the ends of the knot being cut off close. The surface wound was stitched together with silver wire.

Feb. 28. Stump looking well. A slight discharge of healthy pus from the wound over the femoral artery.

March 13. Wound over the femoral is discharging considerably; a little discharge from the inner and outer angles of the stump.

March 20. The upper femoral ligature ulcerated through to the surface of the wound, and was removed.

March 22. The lower knot came away to-day.

March 25. Another hæmorrhage last night from the end of the stump which had healed over, except two minute openings, not much larger than a knitting-needle at the outer angles. The blood came through both openings, perhaps two ounces in all. A wet compress was put over both openings and a bandage around the stump.

March 28. A copious hæmorrhage about two o'clock this morning from the wound in the groin. This is the thirty-fourth day since the artery was tied, and the seventh since the second knot came away. The opening at this time was about two inches in length and half an inch in its greatest depth, and was dressed with lint soaked in alum water. The

blood jetted up with such force as to throw the dressing from the wound. The patient says the stream was as large as the tip of his index finger. The house surgeon was at his bedside in five minutes after the first escape of blood. The blood was then running from the wound at both angles. The bed was saturated, the patient lying in a perfect pool of blood, partly clotted. Pressure over the pubic bone arrested all bleeding. Ether was administered, and Dr. Bogue proceeded to tie the external iliac artery, Dr. Powell assisting. The peritoneum was wounded a little during the operation. The ligature, a double silk waxed thread, was passed without any trouble. The ends of the ligature were brought out at the inferior angle of the wound. Four deep and five superficial silk sutures were used in closing the wound. Adhesive plaster, compress and roller were applied. Hot milk punch was administered, and morphia by injection, to relieve pain.

April 2. Stitches removed; wound gaps a little and discharges a good quantity of pus.

April 21. The ligatures of the iliac artery came away this morning; wound looking well.

June 6. Patient has recovered at last to be discharged, 122 days after the amputation of the thigh.

Book Reviews.

A CENTURY OF AMERICAN MEDICINE. 1776 — 1876. By *Edward H. Clarke, M.D.*, late Professor of Materia Medica in Harvard University, etc; *Henry J. Bigelow, M.D.*, Professor of Surgery in Harvard University, etc; *Samuel D. Gross, M.D., LL.D., D.C.L., Oxon.*, Professor of Surgery in the Jefferson Medical College, Phila., etc; *T. Gaillard Thomas, M.D.*, Professor of Obstetrics, etc., in the College of Physicians and Surgeons, New York, etc.; and *J. S. Billings, M. D.*, Librarian to the National Medical Library, Washington, D. C. Philadelphia: Henry C. Lea, 1876.

The profession will welcome this addition to our literature.

As a record of American Medicine, during the last hundred years, it is of great value. But that is not its only merit. The eminent authors of the five papers which constitute the volume have stamped their own opinions upon the material gathered. The paper upon *Practical Medicine*, by Dr. Clarke, is worthy of its learned writer. No other man is so well fitted to write a "History of the Discovery of Modern Anæsthesia" as Prof. Bigelow. He has collected all the correspondence which passed between the men, each of whom claimed the honor of discovering the anæsthetic properties of sulphuric ether. Prof. Gross is pre-eminently the man to write the history of surgery. Prof. Thomas and Dr. Billings have contributed valuable and instructive papers. The entire work is one of which the American profession may well be proud. A brief resumé of the book is all that can be attempted in this review. Dr. Clarke begins the century by placing Hunter and Bichat as the landmarks from which all other investigators of their time took their reckonings. He calls these two men the "founders of modern physiology and pathology." Our colonists had little time for engaging in scientific experiments. The development of our agricultural, manufacturing and commercial interests was the first thing to be attended to. But the medical profession were not idle; they found time for some experiments and investigations. Among the prominent men who figured in the early history of our country were Rush, Physick and Chapman, of Philadelphia; Hosack, Watson, Francis and Mott, of New York; the Jacksons, Warrens and Bigelows, of Boston, and others. The first medical lectures were given in Philadelphia by Dr. Cadwallader, just prior to 1751. However, the first regular course of scientific medical lectures was given by Drs. Morgan and Shippen, about the year 1765. Now, about two thousand persons annually graduate from the medical colleges of this country. (About one thousand five hundred too many.) Of the physicians who figured in the early history of this country, Dr. Benjamin Rush stands pre-eminent. To quote Dr. Clarke, he was "an ardent patriot, a friend of Washington, a signer of the Declaration of Independence, and was not only eminent as a physician, but

was distinguished as a philosopher and scholar." His treatise on Diseases of the Mind, and his observations on Yellow Fever were both valuable. To Dr. Gerhard, of Philadelphia, belongs the credit of demonstrating the differences between typhus and typhoid fever. Dr. Deveze, of Philadelphia, was the first writer who maintained that yellow fever is non-contagious; and Prof. Alonzo Clark, of New York, was the first to show that the pathological change of the liver in this fever is the result of fatty degeneration. Diseases of the chest have found a most intelligent exponent in Dr. Henry I. Bowditch, of Boston. Thoracentesis has come to be recognized as a tolerably safe, and frequently a necessary, operation; and its recognition as such, by the profession, is almost entirely due to Dr. Bowditch. Says Dr. Clarke, "the principle of M. Dieulafoy's aspirator is the same as that of Dr. Bowditch's exploring trocar and cannula, with suction pump attached." The study of consumption has occupied much attention in the profession. Among the writers and investigators on the subject Dr. Bowditch holds a high place; also Prof. Austin Flint, of New York. The flexible stethoscope was introduced by Dr. C. W. Pennock, and has since been modified and greatly improved by Dr. Cammann, of New York. Richard Bayley, of New York, as long ago as 1781, pointed out the differences between membranous croup and diphtheria. Dr. John Ware has added valuable contributions to the literature of this subject. Prof. J. C. Dalton, of New York, and Dr. S. Weir Mitchell, each in his respective line of work, Physiology and Neurology, have made a brilliant record; but it is impossible in this sketch to touch upon all the points in this excellent paper. According to the U. S. Dispensatory, chloroform was discovered by Mr. Samuel Guthrie, of Sackett's Harbor, N. Y., in 1831. Almost simultaneously Soubeiran, of France, and Liebig, of Germany, made the same announcement. It is evident, however, that none of the three knew anything of the anæsthetic properties of chloroform. Prof. Bigelow knew, personally, all the experimenters with sulphuric ether, was familiar with all the experiments with the agent, and was present at the first surgical operation under it. His essay goes far towards set-

ting the question as to whom the discoverer was. The three claimants were Drs. Wells, Jackson and Morton. We have not space to give the arguments and statements of Prof. Bigelow at length, but his conclusion is this: "*Nobody has ever doubted that Jenner was the inventor of vaccination, and nobody should doubt that Morton was the inventor of modern anæsthesia.*"

Prof. Gross, an Englishman himself, gives great prominence to English surgery, which is only just; but he also gives a fair representation of the surgery of America. See the list of names: Rush, Warren, Physick, Dudley, of Kentucky, Dorsey, author of the first treatise on surgery ever published in this country, Ephraim McDowell, the originator of ovariectomy, Nathan Smith, Davidgè, of Maryland, Mütter, Mott, and Daniel Brainard. Of Prof. Brainard, Gross says, "A bold operator, a successful practitioner, and an original thinker, he held, for many years, the leadership of surgery in the Northwestern States of the Union." A further mention of the eminent names in American surgery gives us that of Dixie Crosby, for many years the able professor of surgery in Dartmouth College, Dr. Amos Twitchell, of Keene, N. H., and a host of others. Prof. Gross says, "it is not at all likely that America will ever again produce four surgeons of equal renown with Valentine Mott, John C. Warren, Philip H. Physick, and Benj. W. Dudley." For "it is not at all likely that an equal number of young practitioners will again be placed under equally advantageous circumstances for their development." Among the men who have especially signalized themselves in the ligation of arteries are McGill, of Maryland, Mott, Smythe, of New Orleans, J. Kearney Rodgers, Willard Parker, Prof. McGuire, of Richmond, Va., and others. In the treatment of fractures, Lenox H. Hodge, Gurdon Buck, Nathan R. Smith, and Dr. E. H. Allen, of St. Louis, are conspicuous. Dr. Wm. W. Reid, of Rochester, N. Y., is the man to whom very great credit is due for advocating the reduction of fractures by manipulation; and his fame ought to be, and is, shared by the present professor of surgery in Rush Medical College, Dr. Moses Gunn. The credit of first using the trephine for the

relief of inflammation and abscess of bone is generally ascribed to Brodie; but, according to Gross, it should be given to Dr. Nathan Smith, of New Haven, who performed the operation in the latter half of the last century. Dr. Walter Brashear, of Bardstown, Ky., first led the way in amputations at the hip joint. Prof. Thomas has contributed an able paper, and has covered the field of obstetrics and gynecology quite thoroughly. Our space admits of only a sketch of his work. Dr. James Lloyd, of Boston is believed to be the first physician who devoted himself exclusively and systematically to the practice of midwifery. Dr. S. V. [B. Tennant, of New York, was among the first to lecture upon the subject of obstetrics and diseases of women. Ephraim McDowell, of Danville, Ky., fairly electrified (and it may be said horrified) the medical fraternity by the daring operations for the extirpation of ovarian tumors. This remarkable man was ridiculed and derided by the European journals when he first announced his innovation in surgery. Dr. Nathan Smith, in 1809, performed ovariectomy without the knowledge of its having been done by Dr. McDowell. Ovariectomy was not performed in Germany, England and France until the years 1819, 1836 and 1844, respectively. E. R. Peaslee, Kimball, Dunlap, John L. and W. L. Atlee, Wm. P. Dewees, Meigs, Hodge, Bedford, of New York, who first established the custom of clinics for diseases of women in this country, Marion Sims, whose speculum is known the civilized world over, H. R. Stover, Parvin, of Indiana, Byford and others, are mentioned as among our eminent obstetricians and gynecologists. Dr. Billings has given us first the quantity of books and periodicals heretofore published by us. The footings are about as follows: American medical books, 2,241: reprints and translations, 2,429; medical journals, 332; volumes of transactions of medical societies, 336. The increase in the amount of medical literature published in the United States has been commensurate with the increase in the population of the country. Concerning the quality of these publications, it is unnecessary to say that the range is very wide. Such treatises as those of Gross, Flint, Wood, Stillé, Dalton and others, will compare favorably with the works of European authors on like

subjects. A large portion of Dr. Billings' paper is devoted to biographical sketches of American physicians and surgeons. We are not without a medical lexicographer, whose name reflects honor upon the profession. It is not too much to say that Dr. Robley Dunglison holds the same place in the medical world that Noah Webster occupies in the department of general letters. The essay of Dr. Billings will repay a careful perusal.

B. W. G.

THE MEDICAL AND SURGICAL HISTORY OF THE WAR OF THE REBELLION. Part II. Surgical Volume II. Prepared under the direction of *Joseph K. Barnes*, Surgeon General U. S. A. By *George A. Otis*, Assist. Sur. U. S. A.

The present volume of 1024 quarto pages continues a presentation of facts regarding wounds and injuries, according to regional classification, through four chapters, numbered continuously with those of the first surgical volume.

Two hundred and eight pages (chapter VI.,) are devoted to a consideration of contusions and wounds of abdominal parietes, vesical injuries without external wounds, penetrating wounds of the abdomen and abdominal effusions, a tabulation of 8,538 cases of wounds, with a record in detail of 610 cases.

Injuries of the pelvis are considered in chapter VII., which embraces 215 pages. Under this head are included shot fractures of the pelvic bones, injuries of the parts contained in the pelvis, and injuries of the genital organs. Thirty-one hundred cases of wounds of the pelvis are enumerated, six hundred and ten being detailed.

In chapter VIII. some reference is made to flesh wounds of the back.

The concluding chapter upon wounds and injuries of the upper extremities, covering nearly 600 pages, presents a summary of facts pertaining to sword, bayonet and other cuts, stabs and shot wounds. The materials are arranged according to that classification which bases the principal divisions on regional, and the subdivisions on structural characters. The facts reported concerning punctured, incised and shot wounds of the upper extremities are distributed in eight lectures, treat-

ing, respectively, of flesh wounds, shot fractures of the clavicle and scapula, wounds of the shoulder joint, shot fractures of the humerus (shaft), wounds of the elbow joint, fractures of the bones of the forearm, wounds of the wrist joint, shot fractures of the metacarpus and phalanges. The work is illustrated in the most creditable manner. We can only, however, note the scope of that volume as a part of a work of which the profession of our country may justly feel proud.

J. E. O.

- I.—A TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. By *W. S. Playfair, M.D., F.R.C.P.* Philadelphia: H. C. Lea. 1876. Pp. 576.
- II.—A MANUAL OF MIDWIFERY. By *Alfred Meadows, M.D.* Second American, from the third London edition. Philadelphia: Lindsay & Blackiston. 1876. Pp. 490.
- III.—A SYSTEM OF MIDWIFERY. By *William Leishman, M.D.* Second American, from the second English edition. Philadelphia: Henry C. Lea. 1876. Pp. 776.
- IV.—THE STUDENT'S GUIDE TO THE PRACTICE OF MIDWIFERY. By *D. Lloyd Roberts, M.D.* Philadelphia: Lindsay & Blackiston. 1876. Pp. 317.

I. In the preface of this recent contribution to obstetric literature, the author expresses it as his object to place in the hands of his readers an epitome of the science and practice of midwifery, which embodies all recent advances. In a word, we think the writer's object is well accomplished in the treatise.

Probably in no other department of medicine has greater advancement been made than midwifery. To be satisfied with the force of this, one has only to contrast Dr. Playfair's humane views, recommending the frequent use of the forceps, with the inhuman proscription of this great aid of a few years ago; and this is but one of a great many points of contrast. Part V. of the book, in which is treated the puerperal state and its management, contains so much that is new, that the old practitioner must feel that he is reading a new science. This part is of great value to the practitioner.

We cannot recommend this book to the beginner; in fact, it obviously was the author's aim to write a book solely for the

advanced student and practitioner. The book is not sufficiently elementary. There is a lack of explicitness in description and definition which precludes this for the first book. It may be argued that the definition of natural labor, for example, is but conventional, and really not important to be remembered in practice. Still, we think it essential that the student should early commit to his understanding certain usual conditions and phenomena, to serve as points of departure. Subsequently, when in practice, it will be easy and perhaps proper for him to look upon the divisions and stages of labor, and of other processes, as arbitrary, and intended for the learner. Besides this objection, the writer is not always accurate; as for instance, on page 93, he says the umbilical arteries are divided from the abdominal aorta. While this is not strictly an anatomical untruth, it is more exact to say, and surely well for the beginner to know, that the umbilical arteries arise from the internal iliaes.

The style of the writer is generally clear and readable. The type and general appearance of the book are attractive. Finally, we should not omit to say that the usual obstetric cuts are generally interspersed throughout the book; the first two pages are embellished with two excellent plates taken from a vertical section of the frozen body during the ninth month of pregnancy.

II. This book has been favorably known in this country for a long time, and deservedly so; for we are not acquainted with a more concise, at the same time complete manual, than this.

We especially recommend it to students to read in connection with their lectures on midwifery, when their time is too limited to read a larger treatise. The author still calls his book a manual; in reality it is wholly unlike the multitude of obstetric hand-books, and may well be called an abridged treatise on midwifery. The recent revision and enlargement that the book has undergone have very noticeably increased its value.

That this book is recommended as a text-book by many of the leading scholars of medicine in this country is sufficient evidence of the favor in which it is held. In a word, we know

of no better book on the subject in our language, for both the student and practitioner. The value of the book is enhanced by this second edition, which contains many notes by our countryman, the late Dr. Parry, whose work on extra-uterine pregnancy attests his ability to edit a treatise on obstetrics.

IV. This is a small hand-book which the author says "is written mainly for instruction of students." We repeat what we said of another book of this character, that we question the usefulness of hand-books in any department of medicine, especially of obstetric hand-books. They are in every respect too incomplete for the student, and what practitioner would be satisfied with a book of reference that contains so little! We do not doubt that this is quite as valuable as other books of its class.

E. W. S.

CLELAND'S DISSECTIONS; a directory for the dissection of the human body. By *John Cleland, M.D., F.R.S.*, Professor of Anatomy and Physiology in Luren's College, Galway. Philadelphia: H. C. Lea. 1877.

This is a neat little volume of 182 pages, of convenient size to carry in the pocket. The subject matter is well arranged, the paper fine, printing clear and distinct. Altogether, it presents a very attractive appearance. It is a matter of no little importance to the student engaged in practical anatomy to know how best to take the body to pieces, so as to show everything to the greatest advantage. The "Directory" will tell him exactly how to do this; so, with its aid, supplementing the admirable work of Gray, dissecting is rendered much more profitable than it would otherwise be.

It does not give the origin and insertion of the muscles, but tells where and how to cut or turn them aside, so as to expose to best advantage the parts beneath.

We cannot too highly recommend it to the zealous student who wishes to make the most of his opportunities while studying anatomy in the dissecting room.

A. B. S.

EPIHOME OF SKIN DISEASES, WITH FORMULE, FOR STUDENTS AND PRACTITIONERS. By *Tilbury Fox, M.D., F.R.C.P.*, Physician to the Department for Skin Diseases in Uni-

versity College Hospital, etc., and *T. C. Fox, B.A., (Cantab.,) M.R.C.S.* Philadelphia: Henry C. Lea. 1876. Pp. 120.

It is said that for every article which has been offered for sale, sooner or later a purchaser has been found. Even the now traditional coffin with a plate inscribed with the name of Thompson, was finally knocked down to a genuine bidder.

We suppose that the large class of men who deliberately choose to buy epitomes, hand-books and pocket editions will always be with us. We wonder who they are and for what they purchase these wares, but the mystery is never cleared up. They must outnumber all other buyers. The consequence is, that whatever these pigmy publications may or may not contain in the way of information, there is always "money in them." Few medical gentlemen of repute care to provide themselves with these pocket companions, and medical students, as a rule, are too hungry to be satisfied with such light repasts of literature.

For those who desire to find the subject of seborrhœa condensed into a single small page, and of eczema into two equally small pages, this little volume will become a perfect treasure. For him who desires to learn how to combine borax, glycerine and rice water, or calomel and lard, these pages will prove a sapient counsellor. It is true that some of the conspicuous carelessness of the elder Fox, in his large and really valuable treatise is here reproduced. It is true, also, that the use of such books tends to make the student superficial, and the practitioner careless. But what of that? This very little book, written by one great man, assisted by his son, who is not yet great, will be purchased by thousands. It will pass through subsequent editions, will help some men, will hurt others, and will be succeeded in turn by a still smaller volume, written by some author who is clever enough to put the text in smaller type. And there are those who will read this single page on psoriasis, and think they have mastered the subject, when, if their eyes were but opened, they would see the whole field of pathology lying mist-covered before them.

HEALTHY SKIN: A POPULAR TREATISE ON THE SKIN AND HAIR, THEIR PRESERVATION AND MANAGEMENT. By *Erasmus Wilson, F.R.S., F.R.C.S., etc., etc.* Philadelphia: Lindsay & Blakiston. 1876. Pp. 306. 8th edition.

Certainly a desirable end would be gained if every gentleman who had attained eminence in some special department of medicine, could write a good, popular treatise on the subject upon which he is presumed to speak with authority. Such works, if they could secure general circulation, would prove valuable as one means of dispelling the erroneous views of the public upon many medical subjects. But, unfortunately, the successful author in science has rarely the training and instinct requisite for such a task. The success which he has attained, in one direction, actually disqualifies him for progress in the other. Lord Macaulay, fond as he was of children, would probably have failed if he had undertaken to write a book especially for his little friends.

Some of the chapters of the popular treatise before us, especially those upon the hygiene of the skin and hair, are admirably adapted to the end in view. But of the work, as a whole, we must express the conviction that it is of the class which may convey that dangerous thing, "a little knowledge," to the ignorant reader. He who is capable of reading it intelligently, and of being sufficiently interested in the subject to read it carefully, had better purchase at once Mr. Wilson's larger work. The non-professional reader who has once wrestled with "molluscum contagiosum," "plica polonica" and "calcareous milary tubercles" in this *popular* work, surely should be sufficiently advanced in his nomenclature to be able to dispense with such terms as "St. Anthony's fire," "red gown," "humid scall," "mattery pimples," *et id omne genus*.

When patients begin to use their own depilatories, and to treat themselves for "rupia" and "ecthyma," then it would seem to us to be time for the physician to take his leave.

BOOKS AND PAMPHLETS RECEIVED.

- A practical treatise on Diseases of the Skin. By Louis A. Duhring, M.D., etc. 1877.
- Mansill's Almanac of Planetary Meteorology and New System of Science. By Richard Mansill.
- The Kentucky Infirmary for Women and Children. Report. Peripheral Paralysis. By F. T. Miles, M.D., etc. Being No. XII. of Vol. II. of "American Clinical Lectures."
- Twenty-fourth Annual Announcement Medical Department University of Vermont.
- Full term Extra-Uterine Gestation of the Tubo-Ovarian form, with special examination of the Sac, Uterus and Appendages. By A. Sibley Campbell, M.D.
- Charter, Ordinances and By-Laws of the College of Physicians of Philadelphia.
- Liebig's Extract of Malt and its Chemical Composition, Manufacture, and Therapeutical uses. By F. H. Davis, M. D.
- Fourth Biennial Report of the Board of State Commissioners of Public Charities of the State of Illinois. November, 1876.
- Transactions of the Medical Society of the District of Columbia. December, 1876.
- Remarks on Intra-Uterine Polypi, with special reference to their Diagnosis and Surgical Treatment.
- Transactions of the Wisconsin State Medical Society. 1876.
- Report on the Influence of Climate on Pulmonary Diseases in Minnesota. By Franklin Staples, M.D.

Medical News and Items.

RUSH MEDICAL COLLEGE.—The thirty-fourth Annual Commencement Exercises of Rush Medical College were held in the new college building, corner of Wood and Harrison streets, Wednesday evening, February 21, 1877. The large amphitheatre was crowded by nearly a thousand physicians and friends of the college. Many hundreds were unable to gain admit-

tance to the overcrowded audience room. The presence of ladies and excellent music contributed largely to the enjoyment of the occasion. After prayer, by the Rev. Francis L. Patton, D.D., of the Presbyterian Theological Seminary, President J. W. Freer, M.D., conferred the degree of Doctor in Medicine upon one hundred and three gentlemen who have complied with the requirements necessary to obtaining the degree. From the appended list of graduates furnished for publication, *fifteen* significant erasures indicate that as many ambitious young hearts were saddened by not bearing their examinations to the satisfaction of the Faculty's demands.

Graduates' Names.—Eugene Savillian Atwood, Silas Addison Austin, Charles Rucker Aiken, Abraham Ashbaugh, Macaulay Arthur, John Wesley Andrews, George Edward Brown, Vernon Roe Bridges, William Thomas Belfield, William Harden Boals, George Henry Barney, William Allds Burnham, Herbert Roderick Bird, John Charles Bryan, Thomas Davis Baird, Benjamin Hurst Bean, John Wesley Clendenning, James St. Clair C. Cussins, Robert Cottingham, Charles Augustine Cromett, Charles Edward Clingan, Andrew M. Crawford, Charles Edwin Caldwell, Irving Le Roy Cutler, Charles Peter Caldwell, William Joseph Conan, George Patrick Cunningham, Daniel Chambers Darroch, Levi Dixon, William Morris Evans, James Marcus Everett, Frank William Epley, William Robert Freek, Dexter Boylston Farnsworth, John Welton Fisher, George Washington Gurnea, George Frederick Gay, William Martin Graham, William Orlando Harland, Edwin William Hunter, Charles Addison Hayes, Hamilton Worth Hewit, Sylvester Clay Ham, Newell Hiram Hamilton, Joseph Mosher Heller, Virgil Eusebius Hestwood, Lyman Drake Jackson, William Henry Jennings, Jacob C. Joralemon, Charles Ludwig Koch, Henry Charles Kerber, Frederick Simon Luhman, Edwin J. Lewis, Leslie Coulter Lane, John Wesley La Grange, James Lawless, John Hinton Lowry, Elmer Fremont Latta, Charles Adolph Luscher, Ottul Klaranus Lindboe, William Herbert Lynn, James McDougale, Joseph Constantine McMahan, John Randolph McCluggage, Theodore Warner Morse, John Wellington Morton, Freeman C. Mason, Thomas

Coleman Malone, Hosea Fountain C. Miller, Jesse Marion Mathes, William Netter, Edwin McLean Northcott, Frederick Robert Nitzsche, James Henry Plecker, George H. Peters, William F. Quirk, Frank Darlington Rathbun, Hugh Alexander Rose, Joseph Bently Rogers, John Allen Russell, Albert Bird Royal, James Lee Reat, Milo Wakely Scott, Horace Woodbridge Smith, Farquhar Stuart, Oliver Thomas Shenick, Thomas Patrick Shanahan, Myron Arthur Tibbits, James Lewis Taylor, Merritt Walter Thompson, William Hull Ten Brook, William Treacy, Ryan Teegarden Van Pelt, Clark Wesley Voorus, Charles Myron Willis, Clarence Scott Wells, Winfred Wylie, William Henry Washburne, Joel Wallace Whitmire, Robert Henry Williamson, Charles Zuppann. *Ad Eundem*—James Degman Reynolds, M.D., Julius Otto, M.D., Charles Peter Caldwell, M.D.

The President of the Faculty *mare mojorum* followed the bestowal of diplomas with his brief charge to the class. He warmly commended their high attainments, unswerving fidelity to the conscientious use of their time during the past five months, and uniform courtesy to their teachers, congratulating them upon having successfully passed an unusually severe set of examinations.

At the conclusion of this address, Dr. Chas. A. Hayes, on behalf of the class, delivered the class valedictory, thanking the Faculty for their teachings, and promising many good things for the future.

After Dr. Hayes, Prof. Jos. P. Ross proceeded to pronounce the valedictory address of the occasion. We regret our inability to reproduce this address in full, for it was one replete with wise advice to the aspiring young doctors before him, and was a farewell word, eminently appropriate to the termination of a protracted and finishing course of instruction in medicine.

After the benediction and music, the large audience wandered through the capacious building, subjecting every part of it to inspection and criticism.

A more enjoyable occasion in medical matters in Chicago, it has scarcely ever been our good fortune to participate in. The happy faces of the graduates, the settled, comfortable satisfac-

tion expressed in the countenances of the Faculty and Trustees over their elegant new home, and the general *bonhomie* of the audience, combined to impress every one present that it was good for them to be there.

At the *Woman's Hospital Medical College* the following students have been graduated: Blanche O. Burroughs, Aurora, Ill., Louisa Dawson, Evansville, Wis., Ellen Von Rolshausen, Chicago, Jennie E. Tarbox, Freeport, Ill. They received their diplomas at the commencement exercises in the First Methodist Church, February 27.

The Library of the Chicago Medical Press Association will, on March 1st, be removed from the Academy of Sciences to a spacious room, the use of which is generously donated by Dr. E. Ingals, at 188 South Clark street. This location, in the very centre of the city, is easily accessible from each division, so that even the busiest practitioner may avail himself of the privileges offered by the Association.

The Library, as soon as the hurry and confusion of moving are over, will be kept open by a regular attendant at least six hours each day for the use of members. In our next issue will appear a card from the Librarian regarding the condition and needs of the Library. We will say now, however, that any donations of books addressed to the Library at the above number will be duly and gratefully received.

[The following bill, introduced into our State Legislature by Mr. Joslyn, January 8, 1877, has been ordered to a third reading. Pending this order, a new, and much more comprehensive bill has been introduced, the daily papers inform us. While this bill is ostensibly calculated to protect the *dear* public (which never loses an opportunity to belittle educated physicians and to run mad over blatant quacks,) it will result in driving charlatans in swarms to the under-fed, half-clothed colleges, whose chief occupation is to sell diplomas. Armed

with such sheepskins, these vermin can sit under your noses and ours and defy educated physicians to purify the ranks of the profession again. Bills of this sort do no good. Medical matters can be legislated into optimism *only* by controlling the colleges, or by exacting from them the proper qualifications in graduates before bestowing diplomas. First class colleges need no such legislation. "Diploma mills," as the great Cowling calls them, would be ground to powder by it, and *they* are what legislatures should severely turn their attention to.—ED.]

A BILL for an act to Regulate the Practice of Medicine and Surgery in the State of Illinois.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly,* That it shall be unlawful for any person within the limits of said State of Illinois who has not attended at least two full courses of instruction and graduated in some chartered school of medicine, either in the United States or some foreign country, and is not a person of good moral character, to practice medicine in any of its departments, or perform any surgical operations for reward or compensation, or attempt to practice medicine or prescribe medicine or medicines, or perform any surgical operations for reward or compensation within the State of Illinois.

§ 2. Any person living in the State of Illinois, or any person coming into said State, who shall practice medicine, or attempt to practice medicine, in any of its departments, or perform or attempt to perform any surgical operation upon any person within the limits of said State, in violation of section one of this act shall, upon conviction thereof, be fined not less than fifty dollars (\$50) nor more than one hundred dollars (\$100) for such offense, and upon conviction for a second violation of this act, shall in addition to the above fine, be imprisoned in the county jail of the county in which such offense shall have been committed, for the term of thirty days; and in no case wherein this act shall have been violated, shall any person so violating receive any compensation for services rendered.

§ 3. Any person who fails or neglects, on or before the first

day of October, 1877, to file in the office of the clerk of the circuit court of the county in which he resides or keeps his office, a certificate or diploma of some chartered college of medicine, that he has attended at least two full courses, and graduated at such college, shall not be permitted in any court of this State to sue for or recover any compensation for his services, advice or attendance as a physician or surgeon; and the failure to file a certificate or diploma as above provided, shall be *prima facie* evidence that he has not attended or graduated at any school of medicine.

§ 4. Any person filing a certificate or diploma as provided in section three (3) of this act, shall attach an affidavit thereto that the same is true and genuine: *Provided*, that any person now practicing medicine or surgery may be examined by the faculty of either of the following named medical colleges: Rush Medical College of Chicago, Chicago Medical College, Chicago, Hahnemann Medical College of Chicago, Bennett Medical College of Chicago, Missouri Medical College of St. Louis, St. Louis Medical College of St. Louis, Homœopathic Medical College of Missouri at St. Louis, American Medical (Eclectic) College of St. Louis, or the Louisville Medical College at Louisville, Kentucky; and, if found by such faculty competent to practice medicine or surgery, said faculty shall grant such persons diplomas without the courses of instruction provided for in section one (1) of this act."

A correspondent to the *N. Y. Med. Record* draws this picture of Prof. Billroth: "A profound pathologist, an accurate anatomist, an operator bold to the verge of rashness, an easy conversational lecturer, an accomplished linguist, a good black-board draughtsman, are qualities not every day to be found combined in one who, during the most severe and tedious operations, preserves an amiability and unpretentiousness which makes his presence a companionship to the youngest assistant. Nor does one often find the strength and endurance of a blacksmith uniting these qualities on the one hand to a distinguished social reputation as a composer and pianist on the other. A

combination of qualities like this, in one so favorably circumstanced, could hardly fail in achieving the popularity and success which Prof. Billroth has accomplished."

TABLE SHOWING THE AGES AT WHICH MARRIAGES TAKE PLACE IN EACH SEX. Taken from the Reports of the Board of Health of Philadelphia, for fifteen years, 1861-1875.

	Und'20	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	Total.
Whole No. Males.....	417	32951	28792	17515	5294	1783	498	94	9	87353
Whole No. Females.....	17604	40467	16634	9504	2546	534	80	8	1	87353
Per cent. Males.....	00.48	37.72	32.96	20.05	6.06	2.04	0.57	0.11	0.01	100.00
Per cent. Females.....	30.15	46.33	19.03	10.88	2.914	0.60	0.092	0.003	0.001	100.00

It will be noticed by examining the above table of eighty-seven thousand three hundred and fifty three marriages, that "the chances of females being married before the age of twenty years, are as *one to five* of all the probabilities that they will ever marry. At the age of twenty years about *one-fifth* of all their chances are gone. At twenty-five, about *two-thirds*, and at thirty, nearly *six-sevenths* of all their probabilities are lost."

Man's chances are scarcely lessened at the age of twenty; at twenty-five, about *three-fifths* of their chances remain; at thirty, about *seven-tenths* of their chances are gone.

The number of births in Philadelphia, for the same period, amounted to two hundred and fifty-eight thousand six hundred and twenty-one, of which one hundred and thirty-five thousand eight hundred and four were males, one hundred and twenty-two thousand eight hundred and seventeen females. There were eleven thousand eight hundred and thirty-six still births, or one to every 21.8 births. One woman out of every 104.1 in labor gave birth to more than one child. Thirty-two women during the period mentioned, gave birth to triplets.

HARVEY DEMONSTRATING THE CIRCULATION OF THE BLOOD.—The great scarcity of the original engraving of Harvey de-

monstrating the circulation of the blood to Charles the First of England, and published in 1851 by Lloyd Brothers, of London, has induced Mr. H. Wood, Jr., of 826 Broadway, N. Y., to issue a photograph of the same. It is 7 by 9 inches in size, and is admirably well executed. By comparing it with the original engraving, it can be readily seen that in sharpness of detail it is everything which could be desired. As the London engraving is now out of print, and therefore very difficult to obtain, this excellent photographic copy is likely to become a very popular picture for the office.

BUST OF DESAULT.—On the 15th of October last there was a grand celebration in the city of Lure, in France, on the occasion of the unveiling of the bust of the illustrious surgeon Desault, the bust being the work of the artist Iselin.

Desault's name requires no comment for the medical profession of America. He was the grand teacher of such great men as Bichât, Dupuytren, Larrey and Chopart, the man who laid broad and deep the foundation of the science of surgery as practiced in the nineteenth century; the son of a peasant, and yet one whose genius placed him in that proud position which is well described in the eulogy pronounced by the immortal Bichât, his pupil.

ASCARIDES vs. ASTEROIDS.—A married lady consulted her physician in regard to a difficulty of the pelvic viscera, having been, during a protracted maidenhood, engaged in the exacting occupation of a teacher in the common schools of this State, which demands, as one of the requirements for a license, a knowledge of anatomy and physiology. She was at no loss to describe the anatomical parts severally affected in good language; however, in an unguarded moment she wandered beyond her domain, and, while referring to a former disease of the rectum, in which *ascarides* played an important part, she declared that since she had got rid of those little *asteroids* she had not had the train of symptoms she had just enumerated.

A new journal is announced from Detroit, the *Detroit Medical Journal*, a monthly. It is made by the consolidation of the *Detroit Review of Medicine and Pharmacy* and *The Peninsular Journal of Medicine*. We are glad to see our friends unite forces upon one Journal; we know it will be a strong one. We are also glad the new periodical is to be issued under the auspices of the Detroit Medical and Library Association. We think we see here the promise of a great medical library for Detroit.

The American Medical Weekly, of Louisville, has begun the new year as a *bi-weekly*. For the future, Editor Gaillard promises not to quarrel with his neighbors over the way. On the other hand, the *Louisville Medical News* says this promise is due to the fact of its continued drubbing of the *Weekly* and the double-headed medical college, of which it says the *Weekly* is the organ. If our friends, the medical editors of Louisville, can be believed, somebody has been very naughty down there.

The fifty-first Annual Report of the Massachusetts Charitable Eye and Ear Infirmary shows that during the year ending Sept. 30, 1876, 8,022 patients were treated in the dispensary, and 431 as house patients, making a total number of 8,453 patients. The out patients are classified as eye patients (5,754) and ear patients (2,668), but no such division is made with the house patients. Still the statistics of the out patients show again the decided preponderance of the external diseases of the eye, the diseases of the lids, conjunctiva, cornea, iris and lachrymal apparatus, numbering 4,170, or 72 per cent. of the total of 5,754. The number of operations performed on the eye is 309, exclusive of the removal of foreign bodies from the cornea and conjunctiva.

There are twelve homœopathic medical journals published in the United States.

Editorial.

The Chicago Medical Press Association has concluded henceforth to take the publication of the JOURNAL AND EXAMINER in its own charge. To this end the editorial corps has been enlarged by the addition of an assistant editor, in order to enable the editors to conduct the publishing department in addition to the discharge of their former duties.

Dr. E. F. Ingals was elected to the position of assistant editor, and will have charge of the business affairs of the JOURNAL AND EXAMINER.

The publishing and editorial office now is located at 188 SOUTH CLARK ST. All letters or communications of a business character, relating to the publication, advertisements, subscriptions, etc., should be sent to the assistant editor, while all articles and communications intended for publication, also all books and pamphlets for review, should be addressed to the editor.

It is hardly necessary to add that every effort will be made to render the JOURNAL AND EXAMINER worthy of the patronage and commendation of the profession.

We earnestly appeal to every member of the profession to come to our aid with original contributions, and to use what influence he can exert to extend the circulation of our periodical.

We may say to our friends and patrons that our prospects are such as to justify us in promising improvement in every respect. Our pecuniary basis is substantial; we are surrounded by liberal, intelligent and energetic *confrères*, who are devoted to the success of our periodical; we have a large foreign and domestic exchange list; in fact, everything, so far as we can judge, gives the assurance of continued prosperity.

The confusion in our affairs caused by the misfortune of our late publishers, has undoubtedly prevented many who would otherwise have become subscribers from remitting for the subscription. But now, since perfect order has been restored by the complete re-organization of the publishing department, we hope that our friends will no longer hesitate to forward their subscriptions for the JOURNAL AND EXAMINER.

Summary of Progress in the Medical Sciences.

1. *The Curved Line of Pleuritic Effusion.* ELLIS. (*Boston Med. and Surg Jour.*, Dec. 14, 1876.)

Five cases of effusion into the pleural cavity, each having the curved lines which limited the dullness superiorly, are reported by Dr. Ellis.

The Dr. very ingeniously elucidates, by diagrams, the extent of effusion following the curved lines. He also reports a case where the flatness extended to the right nipple and around the chest, varying with a change of position. This case is the first that attracted the attention of the author to the peculiar form of dullness in pleurisy. He claims to have established the fact that the dullness in pleuritic effusion is most obvious in the sub-axillary region.

Nov. 10, 1873. A lad of nineteen had an attack of pleurisy. There was dullness over the whole right side. Nov. 25th. Absorption became manifest through a change in the line of dullness. The line followed a curve, beginning at the junction of the sternum with the costal cartilage of the fifth rib of the right side, extending obliquely upward to and crossing the third inter-costal space, thence obliquely downward and inward to the fifth rib of right side posteriorly, thence dropping almost parallel with the vertebral column until it arrived opposite the eighth dorsal vertebra, where it terminated at almost right angles with the column. Dec. 28th. The curved line of dullness in part changed, commencing anteriorly as before, passing almost horizontally to the sixth inter-costal space, crossing it, then following parallel with the same line of curvature as that described above, to the ninth dorsal vertebra.

An Englishman, on Oct. 3, 1873, was attacked with pleurisy. The right side of chest was flat, except the top of the shoulder and clavicular region. The heart was pushed to the left. The curved line of dullness, beginning at the second rib posteriorly, passing upward and outward and crossing the first rib of the right side, thence taking a transverse direction across the chest until it gained the junction of the first costal cartilage with the sternum, taking thence an oblique course downward and outward, it passed about two inches to the outside of the nipple to the fifth rib of left side below, where it curved upon itself, becoming lost at the articulation of the costal cartilage with the sixth rib. Normal respiration was heard above and slightly below the line of dullness, and over the back soft bronchial respiration. Nov. 2d. The line of dullness was found to extend from the eighth dorsal vertebra upward and outward in shape of the italic letter *f*, crossing the fourth rib of right side to the third rib of left side, thence curving parallel with the one above described, though just inside of the left nipple, terminating at the union of the fifth rib of left side with the sternum. Nov. 3d. The dullness had not changed; but the râles, sibil-

ant and sonorous, had disappeared, and the mucous râles were not so abundant. Normal respiration was detected, following the line somewhat as indicated, and about two inches outward, increasing toward the upper part. The other cases as reported were similar, each showing the curved lines of dullness.

Dr. Damoiseau, in 1853, observed the lines of dullness in pleuritic patients, and substantiated his discovery by means of the trocar. In the patients who were recovering from effusion he noticed these facts, namely: "While the flatness persisted in the sub-axillary region on a level with and beneath the lower angle of the scapula, there was resonance in the lower part of the vertebral groove. *Secondly*, the flatness always disappeared last from the lowest sub-axillary region." He also stated that when the dullness reached a point about two and three-fourths inches above the nipple, the line was nearly horizontal; beneath this level it was a parabolic curve, the curvature increasing until it became elliptical in the lower and lateral parts of the hypochondrium.

The author urges close attention to the lowest sub-axillary region, believing with D. that the presence of an ounce of fluid can be detected there. Just how the curved line is formed Dr. E. fails to tell us; of the value of it he thinks there can be no doubt.

W. F. L.

2. *A Case of Intermittent Pneumonia.* HILDEBRANDT. (*Deutsche Med. Wochenschr.*, 1876, No. 49.)

On Nov. 13th, a soldier was admitted to the hospital complaining of pain in the right side, chills and cough. He coughed considerably, and threw up the characteristic pneumonic sputa; crepitant râles over the lower posterior portion of the right lung; no dullness on percussion. Temp. 39.5° C. Nov. 14th A. M. Respiration easy and free of pain and cough; very few râles in the right side; temp. 37.5°; slight enlargement of the spleen. At 3 P. M. a violent chill followed by headache; cough with pneumonic sputa; crepitant râles and a temperature of 45.5°. Nov. 15 A. M. Temp. 37.5°; patient felt quite well, though he coughed some and the crepitant râles had not entirely disappeared. Instead of *sodæ nitras* he now took thirty grains of quinine. The fever did not return; the evening temperature was 37.5°. Nov. 16 A. M. Temp. 36.5°; sputa muco-purulent and scanty. Nov. 19. Patient was discharged and has entered on duty.

3. *Maternal Impressions Affecting the Fetus.* (*Philadelphia Med. Times* Dec., 1876.)

In the cases of *naevi materni*, reported by Dr. E. Seguin, occurs one in his own family. The wife of a physician longed for a dish of ham, her husband thinking this a good opportunity to try the reality of the doctrine of maternal impressions, refused the covetous dish. A girl was born with a mark not unlike the appearance of cooked ham on the back of the head and on the legs. He attended a lady who, during her pregnancy, was so exercised for the safety of her husband engaged in war that she gave birth to an idiotic child; all the other children (6) were above mediocrity.

Another lady—very refined—drank daily a quart of brandy while carrying her fourth child; experienced no uncomfortable symptoms from it; gave birth to an idiotic boy.

A lady came out over-heated from a ball room; her baby three months old taking the breast, was seized with spasms two hours after, and since, is a confirmed idiot and epileptic. In a moment of great anxiety a lady jumped into a carriage with her child, a girl of fifteen months, whose intellect so far was very good. During a journey of twenty miles the child took the breast once, vomiting before arriving at the destination; acute fever followed. The child became a cripple and an idiot. A tramp called at the residence of a farmer for a pot of milk and bread; the wife seeing that he had no left hand re-entered the room crying, "My child will be born with but one hand," and in two months later it so happened. A gentleman lying sick in a country house at night, was attended by his wife, they being alone in the house. She saw somebody wrapped in a sheet trying to effect an entrance; being unprotected she cried out, piled furniture against the door and succeeded in repulsing the intruder. She gave birth, soon after, to a healthy male child, who, at the hour at which the struggle occurred, would scream out every night as if in distress, at other times was good natured. This habit disappeared when taken from the breast.

W. F. L.

4. *Cerebral Exhaustion.* SCHWEIG. (*The Med. Record*, 1876, No. 313.)

The chief predisposing cause of cerebral exhaustion, says the author, is the lack of stamina or staying power, superinduced by too long continued thought or hard study. The avocation of a man is an important factor in the genesis of the disease; physicians, lawyers and inventors furnish the largest proportion of this class of patients. The middle aged, young and old are somewhat exempt. Dr. S. does not believe that the female is less predisposed than the male, but the avocations that distinguish the sexes accounts for the small quota of the disease furnished by women. "Abuse of the mental faculties" is a direct cause of cerebral neurasthenia; such as depressing emotions resulting from family or business troubles, sickness, etc. These causes combined render the brain less competent to resist taxation that, under ordinary circumstances, it might sustain. Of the pathology he thinks little can be said, but none appears more rational than the theory of nutritive changes. Of the symptoms the most prominent is a disinclination for mental labor. If this feeling is only temporary, and an attempt made to perform brain work, a brief application will exhaust the powers of thought and bring on confusion of ideas. In many cases the memory is weakened, in others there is no perceptible change.

Insomnia is present from the beginning. Organs over which the pneumogastric nerve presides are more disturbed than all the others. Disturbances of the heart's action, stomach, liver, intestinal canal, with vasomotor irregularity are common. Cerebral nerves, other than the one described, may in turn become involved; in proof of which we have neuralgia of varied form and intensity.

A mistake in diagnosis is not uncommon; the symptoms due to functional disturbance of the pneumogastric may be looked upon as primary conditions, and result in the loss of opportunity for rapid and decisive treatment. Prognosis will depend not only on the severity of the case, but upon the hereditary disposition, and chiefly, perhaps, upon the ability to follow strictly the treatment. The paramount condition for treatment "is rest for the exhausted brain;" not a temporary rest, but absolute abstinence from all mental labor throughout the entire treatment.

Dr. S.'s method of treatment consists in general galvanization of the brain. To do this he makes use of the galvanic bath. In doing so every organ of the body comes under the electric influence; dyspeptic symptoms, torpor of the liver, cardiac derangement, etc., as a rule are ameliorated. In conjunction with this line of treatment he makes use of the faradic current as a prophylactic, and by evoking capillary stasis a powerful auxiliary is furnished the galvanic current, and better results obtained. A good nourishing diet, with either phosphorus or cod-liver oil is necessary. As regards the administration of the baths, the author admonishes against the use of strong currents at the beginning; the faradic may be used with the bath currents from the first, although the faradic current is only necessary where there is a sub-paralytic condition. The galvanic should take precedence of the faradic current and not be employed more than ten minutes. The bath should not be continued long enough to fatigue the patient.

W. F. L.

5. *Tetanus Successfully Treated by Calabar Bean.* GRANT. (*The Med. Record*, Dec., 1876.)

Many of the failures attending the administration of Calabar bean for tetanus have been due either to a poor preparation of the drug or insufficient doses. A German having tetanic spasms was first given of the tincture 10 drops every hour; on the subsequent day 20 drops, increasing to 30 every hour. Patient now improving, it was reduced to 30 drops three times daily; when suddenly the spasms returning, the following was given:

R	Extract. Physostig.....	grs. xxxij
	Alcohol. dil.....	℥j

M. S. 45 drops every two hours.

The spasms soon subsiding, the patient was given the dose three times daily. The afternoon of the next day the attacks again returned; the dose was now increased to 60 drops every hour for two days; spasms having now disappeared patient was put on 30 drops three times a day. From this date there was no return of spasms. The only physiological action of the agent was contraction of the pupils and slight delirium at times.

W. F. L.

6. *Case of Peliosis Rheumatica.* TAYLOR. (*The Am. Pract.* Dec., 1876.)

A married woman, aged 48, for several years had poor health; was, in

January last, taken with acute pain in the middle of the spine, extending obliquely around the body, and terminating in the left groin. An eruption of herpes zoster, in irregular patches and in its different stages, followed the track of pain, terminating in about two weeks. At the end of the fourth week the pain shifted its location to the thigh and leg, following the great ischiatic and posterior tibial nerves, settling in the foot.

About the fourth or fifth day the foot and ankle became swollen, pitting on pressure, and being painful to the touch. The next morning the anterior portion of the foot and lower half of leg were covered by dark red spots, more numerous over the ankle joint, and from the size of a shot to that of a silver dime, and not projecting above the surface. They retained this color for two days, then changing from dark to brown, then to yellow fading away without desquamation. The eruption lasted ten days, during which time pain and swelling was less severe. At the end of the fourteenth day she had a second attack, followed, each after a similar interval, by a third and fourth one, and each running nearly the same course, all the difference being that the last attack implicated the whole leg, and continued for months with no cessation. Treatment did no good. Finally, on the approach of autumnal weather, seven months after the first attack, a change for the better occurred which continued until she recovered. A loud systolic murmur was detected, with its greatest intensity at the apex.

The author inquires why the periodicity that was present did not yield to quinia and arsenic if malaria was the cause; and why the periodicity if the disease was due to detached fibrinous masses floating in the small arteries and capillaries, resulting from heart disease, and thus poisoning the blood.

W. F. L.

7. *A Case of Intestinal Obstruction of Eighteen Weeks.* BLAKE. (*The Boston Med. and Surg. Jour.*, Nov. 23, 1876.)

A man 46 years of age, strongly developed, weighing 180 pounds, mechanic, of good habits, and health usually fair up to his last sickness in November last; had reverses in business which created a good deal of mental excitement and derangement of digestion. Feb. 29th. Dr. B. was called and found the patient had taken freely of cathartics followed by no fecal evacuations, but by a discharge of glairy mucus mixed with blood, accompanied by tenesmus and pain. Examination revealed no tumor, nor pain, nor tenderness on pressure at any point. During the next week no change in patient's condition; soon afterward followed tympanitis, vomiting and hiccough. Emaciation soon supervened, and before death he was a "living skeleton." June 27th. Bowels moved spontaneously every hour, without power of resistance; the matter evacuated having a tarry look. The quantity the first day was about a gallon; the number of operations from day to day gradually diminished until death. Treatment consisted of injections, calomel pill, followed by castor oil and morphine to relieve pain. Fifth day of illness; bowels had become swollen; enemata of oil of turpentine, castor oil, and a gallon of warm water were administered, giving immediate relief. After four days this treatment failed.

Tenth day, tympanitic distention endangered life, pushing the liver as high as the nipple, the heart pulsations appearing between second and third ribs. Inflation was made without relief. The aspirator was now used; Patain's smallest needle being introduced an inch above the umbilicus, and the flatus pumped off precisely as fluid would be. The tense condition disappeared, the lungs expanded, and the pulse fell from 140 to 96, wonderfully improving the patient's condition. An attempt to move the bowels was now made and failed. A trial at inflation was again made without giving relief. All methods of treatment now being abandoned, nourishing diet per rectum, morphine and the aspirator were alone used; the latter freely without lighting up any inflammation or giving patient any pain. The most wonderful feature of the treatment consisted in the free use of the aspirator. From the second week of sickness up to the time of death it was used daily, and quite frequently three times a day. It afforded so much relief that the patient would often call for it, telling the nurse where to puncture.

Dr. B. does not believe his patient could have survived many hours if the distention had not been relieved by the aspirator. Patient's life depended more on the use of the instrument than on morphine, nourishment and all the other treatment combined.

W. F. L.

II. SURGERY.

1. *Inflammatory and Necrotic Processes in Bone.* BUSCH. (*Langenbeck's Arch. XX.; N. Y. Med. Record.*)

The various stages through which bone passes from inflammation to total necrosis have been carefully studied by Professor Busch, of Berlin, in a series of experiments on animals; and his results throw some light upon these rather obscure processes. His plan was to bore into the medullary canal of a long bone, near the articular extremity, then pass a wire of platinum or iron along the cavity, bringing it out again through a second opening near the opposite extremity. The wire was then heated to whiteness by the galvano-caustic battery. In a large number of cases various degrees of damage were done to the bone; in some, however, where the platinum wire had been allowed to remain in the bone, no apparent reaction was produced, while the holes through which it had entered were closed. These results tally with those published by Crüveilhier in 1816. Necrosis, the author believes, does not in such cases depend upon the mere presence of a foreign body, but upon some of the physical qualities that are associated with it. The expansion of laminaria, when introduced into the medullary cavity, determines the necrosis; and so with platinum or iron, the chemical or other qualities associated with it are the real exciting agents. Four grades of inflammation, corresponding to the intensity of the cause, were recognized: 1, active inflammation (ostitis); 2, death of a greater or less extensive lamella from the inner surface of the compact substance (necrosis interna seu centralis); 3, death of the entire thickness

of the compact cortex (penetrating necrosis), or of the whole circumference of the bone (total necrosis); finally, 4, death of the entire bone, with perhaps some of the enveloping soft parts.

The first-named results were observed in three dogs, the examinations having been made on the 53d, 67th, and 73d days after the injury. The author also adds, as an interesting fact, that where necrosis was observed in one of the principal bones of the limb, it was not uncommon to find that the adjacent bone was affected with osteitis. The various stages of the inflammatory process in a bone were found to follow each other in the following order: Swelling and thickening of the periosteum; deposit of bone substance on the outer surface of the cortex; formation of bone in the medullary cavity; rarefaction of the tissue of the old compact tissue (enlargement of the Haversian canals, and with or without implications of the lacunæ), so that it looked precisely like the new bony matter; thickening of the outermost layers of the periosteal deposits, by which a certain sort of new bony cortex was formed; finally, there was an apparent compression of the inner bony structures by connective tissue, so that in this way there was a new central cavity partly filled with fibrous tissue.

In the cases in which the second grade of the process was observed, it was about the holes that had been bored. In the remainder of the bone there was osteitis. The sequestrum was not fully loose, the examination being made at times ranging from the 30th to the 57th day. The sequestrum was either tubular, or at any rate curved. There was in this case also a deposit of new bone beneath the periosteum, the direction of the new bony fibers being vertical to the surface of the bone. The thickness of the deposit was greatest over the center of the bone. The separation of the sequestrum was caused by the development of granulations in the interior of the old compact substance, while its remaining portion, together with the new deposit, formed the involucrum. In the third grade, where the entire thickness of the bony substance was destroyed, the sequestrum had a smooth surface, like a macerated bone. A point clearly shown in this class of cases was, that, wherever the outer surface of the sequestrum was smooth, there was a corresponding opening in the bony capsule. In the two cases of total necrosis, the involucrum consisted of two parts, the support of the limb being maintained by the fibula. This fact is said to agree with the experiences of Scarpa, Sédillot, and others, that, where the entire thickness of the compact substance takes place, there is no regeneration of bone tissue. It is to be explained by the fact that in these cases the periosteum is separated from the bone, which sets up suppuration, and thus bone formation is prevented. In total necrosis the continuity of the bony involucrum is endangered; in penetrating necrosis a continuous involucrum remains. The early or late removal of the sequestrum appeared to have no influence on the formation of bone. In applying these results to the question of operative surgery in children and adults, the author believes that much the same consequences may be expected. In children, where there is total necrosis of a portion of the bone, if there is bony union, shortening may be expected; but he thinks that after the twenty-fifth year

the cases are very rare in which bony substitution occurs after total necrosis.

Of the fourth class, where death of the entire bone took place, the animals all died at times between the end of the first day and of the first week. There was no reaction in any of them.

2. *Two Cases of Ascites Successfully Treated with Iodine Injections.* NORWOOD. (*The Canada Lancet*, February, 1877.)

Sixty-seven operations of paracentesis abdominis, upon a gentleman sixty-six years of age, during a period of eighteen months, with the removal of from eighteen to twenty-four quarts of fluid at each sitting, were made prior to iodine treatment. About half the usual amount of fluid being removed, as a preparatory step to the operation, two ounces of tinct. iodini, diluted with an equal quantity of distilled water, were injected into the cavity of the peritoneum; cannula was plugged, and patient rolled gently over on the bed for about ten minutes, to bring the injected fluid in contact with the whole surface of the sac. The plug remaining a half hour, was removed, and the balance of fluid (six quarts) drawn off, and a bandage applied. The day following the operation the patient had a chill, with some febrile excitement, and tenderness all over the abdomen. He was kept profoundly under the influence of opium, and had three-grain doses of calomel every four hours. He soon began to convalesce, and in about three weeks from the operation (during which time he received three small tapings) was discharged cured.

W. F. L.

3. *Case of Transverse Fracture of the Patella, Treated by a New Method.* GRANT. (*Edinburgh Med. Jour.*, October, 1876.)

After an interval of two days, to let the swelling subside a little, Dr. G. treats transverse fractures of the patella as follows: The leg is placed on an inclined splint, extending from heel to near gluteal fold; the lower fragment firmly fixed in position by a strap of plaster passing around the leg, and a semilunar splint of Hyde's poroplastic material carefully modeled to the thigh just above the margin of the upper fragment, and is held in position by two stout pieces of strapping, the whole being surrounded by a few turns of a convergent spica bandage. The splint is then allowed to "set," and two steel hooks (the size is not mentioned) are fixed firmly into the splint, one on each side of the patella. The hooks are connected with a steel chain about three feet long, and this attached to the ordinary pulley extension apparatus with a weight of nearly four pounds; this brings the upper fragment down, while the lower remains in position. The method is painless and efficient.

W. F. L.

4. *Extirpation of a large Lipoma of a Bleeder.* STILLING. (*Deutsche Med. Wochenschr.* 51, 1876.)

Mr. Sp., aged fifty-eight years, has had a large lipoma on his back for a great many years. As long as it did not cause him any great inconvenience he would not have anything done for it, especially as he knew in his youth to have bled fearfully after the slightest injury, such as a puncture with a

pin. In 1876, however, the tumor had reached the size of a child's head, and the patient submitted to the extirpation. The operation was performed under the carbolyzed spray; in fact, Lister's antiseptic method was strictly, faithfully adhered to.

The bleeding was exceedingly severe, and very many arteries, though small, had to be closed by a cat-gut ligature or by torsion. The large wound in the skin being closed by numerous cat-gut sutures, a pressure bandage of salicylated cotton was applied. Half an hour after the patient was dressed blood began oozing out from under the bandage, and continued doing so during a whole night. The next morning, when the dressing was changed, the borders of the wound were united, but underneath the effused blood had accumulated in such a quantity as to form a tumor as large as the original lipoma; the tumor showed decided fluctuation—the blood was not coagulated yet. On the fourth day the wound was completely healed by first union; the hæmorrhagic tumor was solid, and under the same dressing, continued during four weeks, it was entirely re-absorbed. During all this time the patient's pulse never rose above eighty; the temperature was always normal; no fever, nor any secretion of pus.

5. *Excision of the Infraorbital Nerve; Rapid Recovery under the Antiseptic Treatment.* STILLING. (*Deutsche Med. Wochenschr.* 52, 1876.)

Mrs. R., aged 72 years, suffered from facial neuralgia since July, 1876. The first attack set in while she was washing her face; it lasted but one minute. Afterward the attacks were occasioned also by speaking, eating and deglutition. The neuralgia was the most violent in the region of the infraorbital nerve, though it extended also over the ramifications of the dental, zygomatic, inferior maxillary nerves. No cause could be ascertained; no relief from general treatment.

October 21, the entire piece of the infraorbital nerve contained in the infraorbital canal was removed by the usual *modus operandi*. The operation was performed under the carbolyzed spray, and the wound was dressed scrupulously after Lister. The first dressing was not changed till the sixth day; the wounds had healed by first union; not one single drop of pus had been secreted.

On the eleventh day the patient could be discharged as cured. The neuralgic pains had not returned in the zygomatic and the other branches after the excision of the infraorbital nerve.

III. OBSTETRICS AND GYNÆCOLOGY.

1. *Injections of Hot Water for Arresting Uterine Hæmorrhage.* WINDEL-BAND. (*Deutsche Med. Wochenschr.* 24, 1876; *Centralbl. f. Chir.*)

Two years ago W. read in some medical journal of two cases of abortion in which Dr. Mann, an American physician, had made a successful use of injections of hot water into the vagina and uterus to stop the profuse hæmorrhage. From an extensive experience in a great variety of grave cases

of uterine hæmorrhage, the writer has gained the firm conviction that the injections of hot water are an invaluable remedy, far preferable to cold water and the astringents in all cases where prompt assistance is urgently needed.

The injections were always made in the recumbent posture, with a simple fountain syringe. The temperature of the water was 38° (centigrade) in the beginning, to be gradually elevated to 41° C. if necessary. These hot injections never cause any unpleasant or injurious reaction; they are, on the contrary, very grateful to the patient. Their hæmostatic effect seems to be due to their stimulating the contractions of the muscular fibres of the uterus.

2. *Aspirating Movement of the Cervix Uteri.* GALICIER. (*La France Médic.*, January 27, No. 8.)

The author established the following phenomena during a speculum examination:

1. The cervix opened by the separation of the two labia, so as to present a funnel-shaped cavity.

2. The labia became more or less approximated or separated according as the speculum was withdrawn or made to penetrate more deeply. No disease of the uterus existed.

The woman was young, and had had one child. She was then in the first month of a second pregnancy.

3. *Imperforate Hymen; Retention of Menses; Death.* CALDERIN. (*Anal. de Gynecol. Espan.*, May 5, 1876.)

On the 15th of August, a girl, fifteen years old, was seized with acute hypogastric pain. By palpation an abdominal tumor was discovered in that region, and vesical catheterism was practiced to facilitate the diagnosis. The escape of a large quantity of urine procured manifest relief. This lasted until January 19th, when the same symptoms were presented, with greater intensity. The same treatment was then adopted, without effect, when a consultation was held, and it was discovered that a soft fluctuating tumor filled the pelvic cavity and extended to the umbilicus, the hymen being imperforate. Menstrual retention was diagnosed, and puncture proposed.

The operation was performed on the 23d with a trocar, with the effect of giving exit to a chamber full of blood. All went well till the 28th, when there was right hypochondriac pain, fever with a pallid countenance, and the escape of a large quantity of fetid pus from the vagina. On the following days the pain extended to all parts of the abdomen. Cadaveric aspect, bilious vomiting, precordial anxiety, small pulse, hiccough, and retention of urine. Catheterism, morphia, belladonna and cataplasms gave small relief. This general condition—the patient being sometimes better and sometimes worse—lasted until the 6th of February, the patient dying on the 7th.

Considering the age of the patient, the volume of the tumor, and the

antecedents of the family (the menses appeared at the same age with her sisters), the physicians concluded that the retention had dated one year before, and that the tumor was formed exclusively by vaginal dilatation. An autopsy was not permitted. The hepatic symptoms could be referred (according to Hervieux) only to peritonitis or phlebitis. Now in this case there was no meteorism—a most constant symptom in peritonitis—and the death therefore must have resulted from phlebitis—the result of extensive prolonged congestion of the vessels of the uterus and vagina. To this is to be added the sudden admission of air to the vagina, the general depressed condition of the system, and the inflammatory manifestations which preceded the very inoffensive operation.

Bernutz (*Monographie sur les rétentions menstruelles*) corroborates this opinion, and proposes in such cases to withdraw the blood at several sittings with a capillary trocar, and to incise the hymen only when previous evacuations have permitted the organs distended by the retained blood to return to their primitive state.

4. *Treatment of Premature Rupture of the Bag of Waters.* DI PINEIRO. (*Anal. de la Soc. gyn. Espan.*, May, 1876.)

When this accident occurs at the fundus of the uterus, it is relatively unimportant; but when it is produced at the neck, death of the fœtus may ensue, or serious maternal trouble. Different measures have been proposed by various authors for the management of dry labors (bleeding, general and local baths, unguents, belladonna to the cervix, etc.), but all are of doubtful utility. The author proposes the following:

In such cases what actually occurs? The uterus, accustomed to contract upon a smooth and uniformly equal surface, enfolds a body of irregular surface, such as the fœtus; the contractions are no longer uniform, and the progress of dilatation of the os is prolonged. The different points of the fœtus support unequal degrees of pressure, whence a loss of equilibrium results in the circulation, and the parts not pressed upon become congested, e. g., the encephalon. On the other hand, the bag of waters operates as a wedge in the process of dilatation; but when it is prematurely emptied there is a new cause for retardation of the expansion of the os, and, besides, the head is unduly compressed, so that cephalhæmatoma may occur. For the mother, then, the labor is prolonged, and the danger proportionately increased; for the fœtus, there is an added probability of cephalhæmatoma, congestion and death.

The author, taking nature for his guide, proposes to employ hydrostatic dilatation. By this agent the os is enlarged without fear of contusion or tearing, and the pressure is not only made uniform, but can also be regulated. The presenting part of the fœtus cannot possibly be compressed. The uterine orifice is closed with an obturating dilator, so that the issue of such amniotic fluid as has not been evacuated at the instant of rupture is prevented, and thus the danger of congestion is set aside. In short, the prospect is much more favorable for the termination of the labor, in a manner satisfactory to both the mother and the child.

It is clear that one dilator is not sufficient; in fact, that various sizes will be requisite. The author has devised dilators constructed of caoutchouc, in the form of a figure eight, with concave extremities, in order to be adapted to the presenting part of the fœtus. Their introduction is readily effected. It is only necessary to take a gum elastic sound, insinuate it into a little pocket purposely made in the dilator, roll the latter about the sound, and insert it into the uterine orifice, making use of the right index finger as a guide. This done, the sound is retracted, and the dilator is held *in situ* with the finger until its gradual distension by the injection of water. Once in place, there is no fear of its slipping, as it is held by its projecting extremities. No. 1 is successively replaced by Nos. 2 and 3, until dilatation is complete, and the delivery then is permitted to progress in the natural way.

In certain presentations, of course, the introduction of the dilator is more difficult than in others; but this difficulty is proportionately less according as the rupture is the more recent.

In tetanic contractions, inhalations of the nitrite of amyl may be employed with benefit.

IV. THERAPEUTICS.

1. *A Remedy for Whooping Cough.* LASINSKI. (*Deutsche Med. Wochenschr.*, 1877, No. 2.)

In twenty-five cases of whooping cough the author has been so exceedingly successful with his topical medication that he has no hesitation in recommending it very warmly to the profession. His remedy is the following powder: B. Quin. Muriat., 1.0; Ac. Salicyl., 2.0; Sacch. Alb., Sod. Bicarbon. aa, 0.5 (1 gramme=15 grains. See JOURNAL AND EXAMINER, February, 1877, p. 172.) This powder is applied to the affected larynx by means of a laryngeal insufflator; the insufflations are made twice daily, and the above quantity of the remedy will last ten days. Consequently, at each application about 0.05 quinine and 0.1 salicylic acid are used. The small dose of the powder being put in the open end of the insufflator, the patient is told to put out his tongue and to take a deep inspiration. At this very moment the tube of the insufflator is quickly put into the mouth far enough to get its curved end behind the epiglottis, and the powder is blown into the larynx. Although the children naturally struggled, they could be managed by one person who had them on his lap and held their hands. Small children of course would not inspire just at the demand of the surgeon, who then had to wait and watch for the desired moment to insufflate the powder. But, for all this difficulty, the whole manipulation never occupied more than three minutes. When the powder actually was blown into the larynx it caused an attack of suffocation, so that this phenomenon may be taken for a proof of the successful insufflation.

The beneficial effect of the treatment was noticed within one week by a decrease of the attacks in violence and frequency. The time required for

a complete cure varied from one to four weeks; in general older children and adults were cured more quickly than young children. And the writer thinks that the time necessary for a cure could perhaps be essentially shortened by more frequent insufflations of smaller doses and by improving upon the *modus operandi*.

2. *Treatment of Diphtheria*. GIBBONS. (*Pacific Med. and Surg. Jour.*, January, 1877.)

The most valuable agent in the materia medica for the treatment of diphtheria is tinct. ferri chloridi. The usual dose of five or ten drops every two hours is too small to yield good results; but it should be given so that an adult patient in twenty-four hours will get from $\frac{3}{4}$ ss. to $\frac{3}{4}$ i. Smaller doses do not exert a specific action on the disease. If the stomach gives way, and the medicine is rejected, the tartrate of potassa might be substituted. Usually twenty-four hours of the iron treatment will suffice.

W. F. L.

3. *On the Principles of Antipyretic Action*. MAY. (*New York Med. Jour.*, February, 1877.)

Of the physiological action of cold, Dr. M. says: "When the animal body is exposed to cold, a sudden loss of heat by radiation takes place, and the process of chemical change is retarded; and if the cold is sufficiently intense, a complete cessation of these chemical changes follows"—showing the therapeutic indications of cold in the treatment of fevers; that to lower the temperature, and check the excessive chemical changes, cold must be applied. Of quinine, he thinks that its antipyretic properties are beyond dispute. The fact that it has power to preserve milk, flesh, wine, etc.; of arresting alcoholic fermentation, and preventing putrefaction; that it destroys all kinds of infusorial life, are sufficient proof of its antipyretic power.

Dr. M. believes that sunstroke can be successfully treated by subcutaneous injections of quinine, in proof of which he quotes from cases reported by Surgeon-Major Hall, who had treated quite a number successfully, by dissolving five grains of quinine in five minims of dilute sulphuric acid and fifty minims of water, and injecting in different places about the shoulders.

The best antipyretic results are obtained by administering large doses of the drug when the temperature is high, and small ones when the heat is less.

Alcohol is another remedy which exerts its antipyretic action by supplying force to the body; such force being needed to build up the system when under the influence of fever poison. The author gives a number of experimental cases on dogs, by Dr. Anstie, showing that "the average human adult is capable of decomposing $1\frac{1}{2}$ ounces of pure alcohol"; however, the amount oxidized in the body depends entirely upon the condition of the system at the time taken. Care must be exercised not to give a larger quantity than the system is capable of oxidizing, else its narcotic effects, such as flushing of the face, giddiness, etc., may do harm. W.F.L.

4. *On a Mode of Generating Sulphurous Acid for use as a Disinfectant.*
KEATES. (*Lancet*.)

Bisulphide of carbon is a compound of one atom of carbon with two atoms of sulphur (C. S.₂); it is a dense, mobile liquid, heavier than water, and intensely inflammable, burning in the air like spirit of wine. During combustion the constituents of the bisulphide combine with the oxygen of the air, producing sulphurous and carbonic acid gasses; but as one hundred parts contain by weight as much as eighty-four parts of sulphur, which will give, in burning, one hundred and sixty-eight parts of sulphurous acid, it will be seen that the volume of this gas from a given quantity of bisulphide greatly exceeds that of the carbonic acid, and is comparatively very large.

The bisulphide of carbon can be burned in a common spirit lamp, and by a modification of the method of burning, the amount of sulphurous acid produced in a given time can be regulated to any given extent.

It is a property of the bisulphide of carbon to dissolve in fat, oils and hydrocarbon liquids, such as petroleum; so by mixing it with any one of these liquids, and burning the mixture in a properly constructed oil or petroleum lamp, sulphurous acid will be generated with the other usual products of the combustion of such materials. As the sulphurous gas is generated *pari passu* during the combustion of the bisulphide, it diffuses itself in the air, which in a short time will become completely impregnated with it.

Sulphurous acid generated in this way can be applied with facility to the disinfection of any place or object. It must be observed that the bisulphide of carbon is extremely volatile, having its boiling point as low as 102° F. It is therefore necessary that the lamp in which it is burned should be furnished with a well fitting screw cap, to prevent the liquid from evaporating, and at the same time to keep its peculiar odor from escaping.

J. S. K.

5. *Anhidrotics.* FOTHERGILL. (*Practitioner*, December, 1876.)

Anhidrotics are agents which check profuse sweating. They are administered internally or applied externally. Of the latter, mineral or vegetable acids are the most valuable. Of the remedies administered internally, the chief are, dilute phosphoric acid; other acids; astringents, mineral and vegetable; oxides, as of silver and zinc; tonics, as quinine; and some members of the solanaceæ, as belladonna and hyoscyamus.

The most potent of all anhidrotics, in the experience of Dr. F., is belladonna. For the arrest of the exhausting night perspirations of phthisis, belladonna is as potent as digitalis is in giving tone to a feeble heart.

To produce these effects it is necessary to use from the 1-75 to the 1-25 gr. atropia by the mouth, the latter dose rarely failing. After the effect is produced, much smaller doses will maintain it. If the smaller dose is commenced with at first, and by gradual increase the larger dose at last reached, Dr. F. has never seen any alarming symptoms of poisoning, since belladonna produces marked toxic effects before a fatal dose is reached.

J. S. K.

6. *The Practical Uses of Bromide of Camphor.* (Lancet; Practitioner, December, 1876.)

In regard to the physiological action of bromide of camphor, it may be stated that it diminishes the number of the beats of the heart, causes contraction of the smaller blood vessels, lowers the temperature, and subsequently induces a more or less marked tendency to sleep. It has been employed by Deneff, O'Hara and Berger in delirium tremens. The first two advocate its employment as beneficial, while Berger makes some reservations. In insomnia, and especially in that form of sleeplessness which is connected with heart lesions or cerebral hyperæmia, Bournville, Lawson and Pathault declare they have observed encouraging results. Riemer and Hammond state that bromide of camphor proved of use in spasms or convulsions brought on by teething. A great many observers have employed it in epilepsy; and whilst some of them think they have seen the epileptic fits become more and more rare under the influence of the drug, others have only noted a remarkable diminution of vertigo (or *petit mal*) following its use. Chorea and hysteria are, however, the nervous disorders in which bromide of camphor has been most extensively used, and with the best effects.

Turning to another class of disease—namely, affections of the urino-genital organs—it appears that in a case of anal and vesical tenesmus, dependent on peri-uterine phlegmon, Dr. Siredey, of Lariboisière Hospital, has recorded the successful employment of the bromide. In cystitis of the neck of the bladder, again, Dr. Lannelongne states that the beneficial action of the bromide is particularly observable when the cystitis is painful and the pain is not dependent on any organic lesion (neuralgic cystitis); 2, in cystitis of the neck due to congestion; and, 3, when catarrh is mild and when acute prostatitis is added to inflammation of the neck of the bladder.

In a case of symptomatic priapism recorded by Dr. Longuet, bromide of camphor was employed with success; and Dr. Petrovitz has recorded some interesting cases of gonorrhœa in which painful erections were stopped by the use of the capsules of bromide of camphor.

J. S. K.

7. *A Ready Solvent for Salicylic Acid.* DUFFEY. (Br. Med. Journal.)

Dr. D. states that a permanently clear solution of salicylic acid can be conveniently obtained by dissolving it in liquor ammoniæ acetatis. This solution is more palatable than any hitherto advised, and is less apt to cause the burning sensation in the throat and gastric irritation which often attend the administration of salicylic acid in large doses.

Formula:

R	Acidi Salicylici	gr. cxx.
	Liq. Ammon. Acetatis	℥ ij.
	Aquæ	℥ vj.

M. Ft. mistura.

One-eighth part contains fifteen grs.

J. S. K.

ANNOUNCEMENTS FOR THE MONTH.

MONDAYS. SOCIETIES.

Mondays, March 5 and 19.—Chicago Medical Society. Regular meetings.

Mondays, March 12 and 26.—Chicago Soc. of Phys. and Surgeons. Regular meetings.

CLINICS. Every Monday.

At Eye and Ear Infirmary, 2 P. M.—Prof. Holmes.

At Central Dispensary (Wood and Harrison sts.)—2 P. M. *Gynecological*, Dr. Adolphus; 3 P. M. *Diseases of Children*, Dr. R. S. Hall.

At Mercy Hospital—2 P. M., *Surgical*, Prof. Andrews.

At Rush College—2½ P. M., *Medical*, Dr. Bridge.

At Chicago College, 2 P. M. *Gynecological*—Prof. Merriman.

LECTURES. Every Monday.

At Rush Medical College (Harrison and Wood sts.)—9 to 1 o'clock, Drs. Wadsworth, Jackson, Danforth and Knox. At Chicago College—8¼ to 12¼, Profs. Jewell, Hyde, Hatfield and Bond; 3 to 6, Profs. Nelson and Davis, Quine and Andrews, and Roler.

TUESDAYS. SOCIETIES.

Tuesday, March 13.—Academy of Science. Regular meeting at 8 P. M. (263 Wabashav.)

CLINICS. Every Tuesday.

At Eye and Ear Infirmary—2 P. M., Prof. Jones.

At County Hospital—2 P. M., *Medical*, Prof. Bevan. 3 P. M., *Surgical*, Prof. Bogue.

At Mercy Hospital—2 P. M., *Medical*, Prof. Hollister.

At Chicago College—2 P. M., *Gynecological*, Prof. Roler.

LECTURES. Every Tuesday.

At Rush College—9 to 1, Drs. Owens, Bridge, Strong and Case. At Chicago College—8¼ to 12¼, Profs. Jewell, Quine, Merriman and Bond; 3 to 6, Profs. Johnson and Nelson, Andrews and Hatfield, and Byford.

WEDNESDAYS. CLINICS. Every Wednesday.

At County Hospital—2 P. M., *Ophthalmological*, Dr. Montgomery; 3 P. M., *Gynecological*, Prof. Fitch.

At Chicago College—3 P. M., *Gynecological*, Prof. Nelson.

At Mercy Hospital—2 P. M., *Ophthalmological*, Prof. Jones.

At Central Dispensary—2 P. M., *Surgery*, Dr. Loomis; 3, *Diseases of Chest*, Dr. Ingals; 3, *Gynecological*, Prof. Etheridge.

LECTURES. Every Wednesday.

At Rush College—9 to 1, Drs. Wadsworth, Ingals and Sawyer. At Chicago College—8¼ to 12¼, Profs. Hyde, Isham, Hatfield and Bond; 3 to 6, Profs. Davis and Curtis, Quine and Jones, and Roler.

THURSDAYS. CLINICS. Every Thursday.

At Eye and Ear Infirmary—2 P. M., Prof. Hotz.

At Mercy Hospital—2 P. M., *Medical*, Prof. Davis.

At Rush College—2 P. M., *Medical*, Prof. Ross; 3 P. M., *Diseases of the Nervous System*, Prof. Lyman.

At Chicago College—2 P. M., *Gynecological*, Prof. Merriman.

At Central Dispensary—2 P. M., *Surgical*, Dr. Graham.

LECTURES. Every Thursday.

At Rush College—9 to 1, Drs. Hayes, Bridge, Strong and Case. At Chicago College—8¼ to 12¼, Profs. Hollister, Isham, Merriman and Bond; 3 to 6, Profs. Johnson and Nelson, Andrews and Hatfield, and Byford.

FRIDAYS. SOCIETIES.

Friday, March 9.—State Microscopical Society of Illinois. Regular meeting, 8 P. M.

CLINICS. Every Friday.

At County Hospital—2 P. M., *Medical*, Prof. Bevan; 3 P. M., *Surgical*, Prof. Bogue.

At Mercy Hospital—2 P. M., *Medical*, Prof. Davis.

At Chicago College—2 P. M., *Gynecological*, Prof. Roler.

At Central Dispensary—2 P. M., *Diseases of Chest*, Dr. Harroun; 3 P. M., *Dermatological*, Dr. Maynard.

LECTURES. Every Friday.

At Rush College—9 to 1, Drs. Wadsworth, Jackson, Strong and Knox. At Chicago College—8¼ to 12¼, Profs. Hollister, Isham, Hatfield and Bond; 3 to 6, Profs. Davis and Curtis, Jones and Quine, and Roler.

SATURDAYS. CLINICS. Every Saturday.

At Chicago College—2 P. M., *Surgical*, Prof. Andrews or Isham; *Gynecological*, Prof. Nelson; 3 P. M., *Medical*, Prof. Johnson.

At Rush College—2 P. M., *Surgical*, Prof. Gunn.

LECTURES. Every Saturday.

At Rush College—9 to 1, Drs. Owens, Bridge, Sawyer and Danforth. At Chicago College, 8¼ to 11¼, Profs. Hollister, Quine and Hyde; 3 to 6, Profs. Nelson and Johnson, Andrews and Quine and Byford.

At all the above named Clinics visiting regular practitioners are, we believe, admitted.

At the South Side Dispensary (Chicago College) there are six daily special Clinics, for sections of the classes of the Chicago College.

The Spring Course of Rush College begins March 7th. The Winter Course of the Chicago College ends March 20th.